SOVIET PISTOLS

Tokarev, Makarov, Stechkin and others

LEROY THOMPSON

WEAPON

SOVIET PISTOLS

LEROY THOMPSON
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INTRODUCTION

April 1991: a member of the OMON special internal security unit points his PM pistol. (Alain Nogues/Sygma/Sygma via Getty Images)

As in many countries, the handgun in Russia and the Soviet Union has served as a symbol of authority for military officers and state-security personnel, as well as a primary small arm for the armed forces' armoured crews, artillerymen, transport drivers and medical personnel among others. Russian handguns have traditionally been exceptionally durable and simple to operate. That reputation is evident in the fact that the Nagant M1895 revolver, originally adopted in the 19th century, remains in second-line service with some Russian police and military units at the time of writing, as does the Tokarev TT-33 pistol, initially adopted in the 1930s. Originally adopted in 1951, the Makarov PM pistol is still in front-line service with many Russian military and police units, though various newer pistol designs such as the GSh-18 and MP-443 *Grach* have also come into service.

Intended as a replacement for the M1895, the TT-30 was designed by Fedor Vasilievich Tokarev (1871–1968), who also designed the SVT-38 and SVT-40 self-loading rifles. To accelerate production, changes were made to the TT-30's design, resulting in the redesigned pistol being designated the TT-33. By the end of World War II, a total of 1,330,000 Tokarev pistols had been produced, with limited production continuing after the war. Eventually, TT-33 variants would be produced by eight other countries, most of which were within the Soviet sphere of influence, and would see action in myriad conflicts, especially Soviet- or Chinese-supported insurgencies. The substantial number of Tokarev pistols brought back by US veterans of the Korean War (1950–53) and the Vietnam War (1955–75) attest to its widespread usage in those conflicts.

The TT-33's great strength is its high-velocity bullet that will punch through thick clothing and equipment – an invaluable advantage in the conditions of the winter fighting on the Eastern Front or during the Korean War. However, it lacks an external safety, thus increasing the likelihood of a negligent discharge and was a single-action (SA) design in the post-Walther PP, PPK and P 38 era of double-action (DA) pistols.

A TT-33 along with a typical style of holster and a packet of 7.62×25mm cartridges.

The Soviets were well aware of the DA/SA design of Walther pistols, having captured large numbers of them from German forces. Additionally, Zella-Mehlis, where the Walther manufacturing plant was located, lay in the Soviet occupation zone of post-war Germany, giving the post-war Soviet Army access to tooling and prototype pistols. There is little doubt that the Walther design for a double-action pistol influenced the design of the TT-33's replacement, the Makarov PM (*Pistolet Makarova*, 'Makarova's Pistol'). In the post-World War II competition to find a more compact and modern replacement for the TT-33, the design from Nikolay Fyodorovich Makarov (1914–88) was chosen.

The round for the new pistol, the 9×18mm Makarov, had actually been developed prior to the pistol itself. The round was designed by Boris Vladimirovich Semin (1911–82); though it fired a 9mm bullet, it was not as powerful as the 9×19mm Parabellum round, but was more powerful than the 9×17mm round used in Walther PP and PPK pistols. This intermediate round could be fired in a blowback design, thus allowing the PM to be cheaper to produce and more compact.

The PM has proven to be a highly reliable pistol that may be carried safely yet brought into action quickly due to its DA/SA design. Production was made quicker and cheaper as the PM has only 27 parts. It may be quickly disassembled for cleaning, with small components remaining 'captive' so they do not get lost.

The APS (above) compared with the Makarov PM; note the selector switch for the APS is on the slide and is set on semi-auto. Rotating the selector up to the left puts it on safe and all the way to the right where the red dot is located puts it on full-auto.

The PM remains in service with many Russian law-enforcement agencies and some military units. It has proven popular on the export market, especially to countries formerly within the Soviet sphere of influence, and has seen service with around 50 countries. In addition to the Soviet Union/Russia, China, East Germany and Bulgaria have manufactured the PM. 'Khyber Pass' craft-built examples have also been used in Afghanistan and Pakistan. PM pistols have been prized by US troops who captured them in Vietnam and other countries in Africa and the Middle East where they served. Large numbers of East German and Bulgarian PMs have been imported into the United States and are popular pistols for self-defence use.

The PM served alongside another new handgun, the APS (*Avtomaticheskiy Pistolet Stechkina*, 'Stechkin's Automatic Pistol'). Chambered for the same 9×18mm round as the PM pistol, the APS offers both semi-auto and full-auto fire. The mysterious PSM (*Pistolet Samozaryadniy Malogabaritniy*, 'Compact Self-loading Pistol') is also discussed in this study, along with a range of specialized handguns such as the MSP, PSS and S4M silent pistols and the SPP-1 and SPP-1M underwater pistols.

DEVELOPMENT

The evolution of Soviet handguns

THE SMITH & WESSON REVOLVER

The first revolver to be issued widely in the Russian armed forces was the Smith & Wesson Model 3 with modifications specified by the Russians, including chambering for a .44-calibre cartridge that differed from the standard .44 S&W chambering. This cartridge would come to be designated the .44 Smith & Wesson Russian and to accommodate it, the Smith & Wesson Russian revolver's cylinder had a step machined into each chamber. Additionally, barrel markings were in Cyrillic instead of English. The first order was placed in May 1871, for 20,000 of what are generally termed Smith & Wesson First Model Russian revolvers.

After the Smith & Wesson revolver had entered Russian service, the Russian government requested a grip configuration that would dampen the tendency of the revolver to shift in the shooter's hand. This new model

ABOVE & LEFT
The .44 S&W Second Model Russian single-action revolver was produced during 1873–78; the Imperial Russian Army eventually purchased over 131,000 Smith & Wesson revolvers in three variations. The Russians copied the Smith & Wesson design and began producing it themselves at Tula Arms Plant. The Russian government cancelled the Smith & Wesson contract before it was completed, resulting in a large number of the revolvers being sold in the United States. In addition to the Cyrillic markings, the most noteworthy feature of the .44 S&W Russian revolver is the 'spur' beneath the trigger guard. (Courtesy of Rock Island Auction Service)

also had a shortened barrel (178mm) compared to that of the First Model Russian (191mm). Revolvers incorporating these changes were designated the Smith & Wesson Second Model Russian, with an order for 20,000 of this model being placed in January 1873 and 70,000 eventually being purchased (Jenks 1977: 77)

Yet another model, the Smith & Wesson Third Model Russian, incorporated a barrel with a forged front sight, improved extractor and an even shorter barrel (165mm). Russia would order more than 40,000 Third Model Russian revolvers from Smith & Wesson, but the intention was to eventually establish indigenous production of the company's revolver design; and to this end the Russian government ordered 100,000 Third Model Russian revolvers produced by the German firm Ludwig Löwe between 1877 and 1884. In 1886, production of the Third Model Russian revolver began at Tula Arms Plant in Russia, with an estimated total of 80,000–160,000 produced (Ezell 1981: 116–24).

THE NAGANT M1895 REVOLVER

The Nagant M1895 was the brainchild of the Belgian weapons designer Léon Nagant (1833–1900), whose brother Émile (1830–1902) designed the M1891 Mosin-Nagant rifle used by Russian and later Soviet troops. Léon Nagant's revolver design and the round it chambered incorporated some distinctive features. The 7.62×38mmR cartridge employs a 108-grain (7.00g) FMJ (Full Metal Jacketed) bullet seated below the mouth of the cartridge case, which is crimped above the bullet. When the round is fired, as the bullet leaves the cartridge case the case rim expands to form a 'forcing cone' resulting in a gas seal that is intended to mitigate the loss of muzzle velocity caused by gas leaking through the gap between the revolver's cylinder and barrel. Various patents were issued during the late 19th century for 'gas-seal' revolvers, the first being registered by the German-born but Belgium-based gun designer Henri Pieper (1840–98) in 1886. For the purposes of this discussion, however, the most important of these patents was issued to Léon Nagant in 1894.

Nagant's revolver was of solid-frame design and employed a side loading gate and an external rod ejector of the type familiar on the Colt single-action revolver. It had a seven-chambered cylinder rather than the six-chambered one more commonly found; and it was chambered for a 7.62×38mmR cartridge. The gas seal was achieved by a 'male' cone on the rear of the barrel seating in a 'female' cone in the mouth of the chamber (Taylerson 1970: 181–82). The 7.62×38mmR cartridge was also designed to aid in forming the gas seal by having the mouth of the cartridge case protrude 1.5mm from the cylinder when the cylinder was in its rearward position (Ezell 1981: 124). During the cocking sequence, the cylinder was rotated one-seventh of a revolution to align the chamber with the barrel before the cylinder was pushed forward to complete the gas seal. To prevent the gas seal from being broken when the revolver was fired, during the cocking sequence of the revolver, a wedge block was moved against the cartridge-case head in front of it to prevent movement.

A very early single-action-only Nagant M1895 revolver, dated 1899; note the holster with the loops for a cleaning rod and the pouch for seven rounds of 7.62×38mm ammunition, a round of which is also shown next to the revolver.

Releasing the trigger allowed the cylinder to return to its rearward position (Taylerson 1970: 181–82).

The Russians chose the Nagant design in 1895 as a more modern replacement for the Smith & Wesson Russian revolvers. Adopted as the *Revolver Sistemy Nagana obrazets 1895 goda* (Nagant System Revolver Model 1895), the M1895 fired a smaller-calibre cartridge, which performed more efficiently because of the gas-seal design. The M1895 was also more compact and could be carried more easily by officers and other specialized troops issued a holster weapon rather than a rifle; and it allowed double-action fire, though only officers were issued double-action revolvers. Enlisted personnel who were issued revolvers received single-action revolvers. The Russian designation of the single-action model was 'Soldier's Pistol' (Ezell 1981: 129). The logic of this decision is not clear unless it was deemed desirable for officers to be able to fire rounds more quickly should the troops show 'revolutionary' tendencies! In actuality, the intent may have been to limit ammunition expenditure by requiring more effort to fire quickly, but also allowing better accuracy through the lighter single-action trigger pull. Another rationale for producing the single-action model was that it was less expensive to manufacture.

The use of a side loading gate and an external ejector rod to load cartridges and eject spent cartridge cases also slowed the reloading process, thus discouraging rapid use of ammunition. In fact, based on typical M1895 holsters, only one seven-round reload was normally carried. After the Russian Revolution (1917–23), when production resumed in 1925, all Nagant M1895s were produced with the double action. In Belgium, the M1910 Nagant was developed with a swing-out cylinder to speed the loading process; however, this version was never adopted in Russia, nor elsewhere for service usage.

The M1895 was slow to load as the side loading gate had to be opened and each spent cartridge case ejected prior to inserting a fresh round.

It is worth noting that the adoption of the M1895 was not the first Russian ordnance encounter with the design work of Léon Nagant. Sergei Ivanovich Mosin (1849–1902) had, without permission, incorporated a magazine interrupter design Nagant had used in his entry in 1890–91 Russian Army rifle trials. Thus, the M1891 Mosin-Nagant rifle, which served for decades along with the Nagant M1895 revolver, owes a debt to Léon Nagant as well (Layman 2018: 12).

Although initially, the Russian government purchased M1895s from the Fabrique d'armes Émile et Léon Nagant of Liège in Belgium, the same company also provided the tooling to enable Russian manufacture of the revolver at Tula Arms Plant. About 20,000 M1895s were purchased from the Nagant factory between 1895 and 1898 when Tula Arms Plant began producing the revolvers. During World War II, the M1895 would also be produced at Izhevsk. The projected quota for M1895 production between 1898 and 1902 was 180,000. By 1914, prior to Russia entering World War I, the Russian government had acquired 436,210 M1895s (Ezell 1981: 129).

According to Taylerson (1970: 183), it seems that Russia did not just receive production rights to the M1895 but also patent rights to the revolver. He offers as proof for his claim the observation that prior to 1900 the 'L. Nagant Brevete Liege 1898'-marked M1895 was common, but after 1901 only Russian-marked M1895s are encountered. Estimates of the total number of Nagant M1895 revolvers produced prior to the end of World War II usually run to around 2,000,000.

M1895 VARIANTS

An interesting variant of the Nagant M1895 revolver is what is often termed the NKVD Model. Though NKVD agents probably did use this version, it was introduced prior to formation of the NKVD in 1934 and was discontinued prior to NKVD formation. Officially known as the Commanders Short Model, it was used by senior Red Army officers and by forerunners of the NKVD such as the Cheka and the OGPU. For easier concealment, the NKVD Model had a shorter barrel and grip but retained the standard M1895 frame. It is estimated that about 35,000 examples of the NKVD Model were produced. This version of the Nagant M1895 is rarely encountered and is highly sought by collectors (Layman 2018: 15).

Another variation of the M1895 design that should be mentioned is the .22-calibre model designed for training and sport shooting. This model was reportedly manufactured during 1925–39. Presumably because M1895s remained in use with private security companies into the 21st century, a version designated the 'Naganich' was intended to fire rounds utilizing a rubber bullet or gas-filled cartridge. In addition, at some point, possibly during World War II, the VPO-503 version of the M1895 was produced as a 'signalling revolver' (Monetchikov 2015: 119–23).

One aspect of the M1895's design that is sometimes mentioned is the fact that the gas-seal system allows a suppressor to be used. Typically, despite their portrayal in films, suppressors are not especially effective on revolvers due to the escape of gases (and sound) through the gap between the cylinder and barrel. Examples of suppressed M1895 revolvers are known and were reportedly available to NKVD agents. The suppressor was known as the BRAMIT (BRAtya MITiny, 'Bramit Brothers') device, production of which began in 1931 for use by Soviet reconnaissance troops. The device consisted of two parts: a muzzle attachment and a special 'bottle-necked' cylinder that chambered a 6mm bullet in a sabot.

The small NKVD Model Nagant M1895 (above) and the standard-sized revolver.

EARLY SEMI-AUTOMATICS IN SOVIET SERVICE

While the Nagant M1895 revolver was the primary handgun issued to Russian troops prior to the Russian Revolution, there were some semi-automatic pistols issued and one actually produced prior to the adoption of the Tokarev pistol. FN Browning M1900 (.32 ACP), M1903 (9×20mmSR Browning Long) and M1905 (.25 ACP) pistols were all purchased for graduates of the Nicholas General Staff Academy (later the Imperial Nicholas Military Academy) in St Petersburg and can be easily identified by the crossed Mosin-Nagant rifles on the frame. Examples are known in both blue and nickel finishes. Fabrique Nationale records indicate that most were shipped from Belgium to Russia between 1907 and 1914.

Not all of the FN Browning pistols were purchased for officer cadets, however, there being four Imperial Russian contracts for the M1903 pistol. Among the agencies that received M1903s were the Moscow Metropolitan Police, the Railway Gendarmerie and various other gendarme corps. Most of these pistols were slotted for shoulder stocks and stocks were supplied with the pistols by Fabrique Nationale (Vanderlinden 2013: 187–89 & 206–07).

During the Russian Revolution, the Mauser C96 semi-automatic pistol with a short barrel (99mm) saw extensive use. In fact, this short-barrelled version of the Mauser in 7.63×25mm calibre was so popular with the Bolsheviks that it became known as the 'Bolo' model. Its chambering would also influence the cartridge later used in the Tokarev pistol.

The Russian government also arranged to purchase (through the British War Mission) .45 ACP-calibre Colt M1911 commercial-model semi-automatic pistols produced in 1915 and 1916. These were marked with the words 'English Order' in Cyrillic script. The order was substantial, with 51,100 being purchased, though some sources state that not all of them made it to the Russian government prior to the Russian Revolution.

A nickelled FN Browning M1900 pistol bearing the crossed Mosin-Nagant rifles on the frame, indicating that it was one of those purchased from Fabrique Nationale in Belgium for use with the Nicholas General Staff Academy (later the Imperial Nicholas Military Academy) in St Petersburg. Both blued and nickelled M1900s were acquired, and it is assumed that the nickelled ones were awarded for special honours.

How much combat the M1911s saw and with whom is a matter of speculation. During World War II, the United States also sent 12,997 M1911s and M1911A1s to the Soviet Union under Lend-Lease agreements. Because of the .45 ACP chambering, ammunition supply would have been problematical for the Soviet supply system, so little is known about their use.

The first semi-automatic pistol actually produced in the Soviet Union was the Korovin. Initially, Sergei Aleksandrovich Korovin (1884–1946), who had worked for Fabrique Nationale prior to joining the staff at Tula

ABOVE & LEFT
After the Russo-Japanese War (1904–05), the Imperial Russian Army ordered 9×20mmSR Browning Long-calibre FN M1903 pistols with shoulder stocks. These pistols were marked with Cyrillic lettering that translates as 'District Gendarmerie Corps'. The close-up shows the Cyrillic markings on the slide and stock lock.

Rarely encountered is the .25 ACP FN Browning M1905 pistol with crossed Mosin-Nagant rifles, indicating a Nicholas General Staff Academy contract.

Arms Plant in 1920, designed a 7.65mm-calibre self-loading pistol in 1920–21. By 1927, 50 of the pistols had been assembled for testing. Sergei Aleksandrovich Prilutsky also developed a 7.65mm self-loading pistol during this period, ten of which were assembled at Tula Arms Plant for testing. In tests of the Korovin, Prilutsky and Walther PP pistols during summer 1928, the two Soviet designs fared well enough that with suggested changes, 500 of each design were ordered from Tula Arms Plant; however,

The first semi-automatic pistol produced in quantity in the Soviet Union was the small .25 ACP Korovin, which was used by some high-ranking officers.

A NEW PISTOL ROUND

A primary consideration in determining that a new Red Army military pistol would be chambered for the 7.63×25mm Mauser round was that it would be suitable for use in a submachine gun as well as a pistol. The decision to change the bullet diameter to 7.62mm was for compatibility with the M1891 Mosin-Nagant rifle as well as the Nagant M1895 revolver's 7.62×38mmR round to allow the same gauges to be used for pistol, rifle and submachine-gun barrels (Datig 1990: 15). Remling suggests that rejected rifle-barrel blanks could still be cut to make Tokarev pistol barrels, all having four grooves with a right-hand twist of one in 9–10in (24.1–25.4cm) (Remling 1984: 10). The resulting round, the 7.62×25mm Tokarev, is so similar to the 7.63×25mm Mauser round that the latter is virtually interchangeable. However, as the 7.62×25mm Tokarev round has generally been loaded to higher pressure for submachine-gun use than the 7.63×25mm Mauser round, it is not advisable to use the Tokarev ammunition in Mauser pistols.

Left to right: 7.65×21mm Luger, 7.63×25mm Mauser and 7.62×25mm Tokarev rounds. Weighing 93 grains (6.03g), the Luger bullet has a muzzle velocity of 370m/sec and muzzle energy of 412 joules. The Mauser bullet weighs 86 grains (5.6g); it has a muzzle velocity of 441m/sec and muzzle energy of 545 joules. Weighing 85 grains (5.5g), the Tokarev bullet has a muzzle velocity of 376m/sec and muzzle energy of 390 joules, or, if loaded for submachine-gun use, a muzzle velocity of 497m/sec and muzzle energy of 697 joules.

before the pistols could be delivered, the Soviet Artillery Committee, which oversaw small-arms designs, opted for a yet-to-be-determined pistol to be chambered for the 7.63mm Mauser cartridge (Ezell 1981: 521).

Korovin had another pistol design and it went into production. Based to some extent on the Browning-designed FN pistols, it was a small 6.35×15mm (.25 ACP) self-loading pistol of blowback design. Although the small Korovin was never officially adopted as a military pistol, it did see substantial use among high-ranking military officers (who could slip it into a pocket) and among the NKVD, police, State Bank personnel and high-ranking Communist Party members. The Korovin pistol was produced until 1935, with some estimates putting the total manufactured as high as hundreds of thousands (Layman 2018: 25).

Although Korovin and Prilutsky attempted to convert their pistol designs to take the far more powerful 7.62×25mm round, they were not successful in scaling up their pistols to take the new cartridge (Datig 1990: 15).

Fedor Vasilievich Tokarev (1871–1968) initially served as a non-commissioned officer armourer in a Don Cossack regiment. By 1900 he had graduated from the Military Technical School with an officer's commission as a master gunsmith. A career of technical innovation in small arms followed, including a conversion of the M1891 Mosin-Nagant bolt-action rifle to semi-automatic fire. By 1917 he had been appointed director of the Imperial Small Arms Factory at Sestroretsk. He was retained at Sestroretsk after the Russian Revolution, moving to Tula Arms Plant in 1921. Over the next decade Tokarev continued to work on the development of a semi-automatic rifle as well as a light machine gun. He also worked on a select-fire pistol carbine. His semi-automatic rifle designs would result in the Red Army's adoption of the SVT-38 and SVT-40 (Datig 1990: 18–19). (Universal History Archive/ Universal Images Group via Getty Images)

THE TOKAREV TT-30 AND TT-33

Fabricated at Tula Arms Plant, a 1929 pistol design by Fedor Tokarev featured a double-column, 22-round magazine and a selector that would allow single shots or a continuous burst. A simple blowback design, it could be loaded with a large-capacity magazine or from the top using a stripper clip, as per the Mauser C96. The hammer was an integral part of the slide and for better control, the pistol had a wooden forearm; it would be called a 'machine pistol' today. Though an interesting design that worked in tests, it did not meet the criteria for a new military pistol to be operated with one hand (Ezell 1981: 521).

In 1930, Tokarev entered Red Army pistol trials with the design that would be adopted as the 'Tula-Tokarev Model 1930' – the TT-30 – but which was not officially adopted until 1931 (White 2020: 21). The TT-30 showed FN Browning influence, no doubt from Tokarev's time at Fabrique Nationale, as well as examining Colt and Browning pistols that had been purchased by the Russian government. It incorporated three important new features: a removable hammer/lockwork assembly; feed lips machined into the pistol's frame rather than on the magazine; and a lack of an external mechanical safety (Ezell 1981: 523). Tokarev had originally tested his removable-hammer assembly in a Colt M1911 and Browning M1903 (Popenker 2015: 27). In trials against the pistols from Korovin and Prilutsky as well as foreign pistols, the Tokarev design proved more accurate and reliable as well as being lighter, though it was harder to disassemble than the other pistols. The test commission did recommend that the Tokarev's accuracy be improved, with the emphasis on better sights and trigger pull. Safety features were also singled out for improvement (Ezell 1981: 523).

After a demonstration to various high-ranking Communist Party military officials on 23 December 1930, 1,000 TT-30s were ordered for troop trials. However, some authorities believe that only a limited number

Left-side view of the Tokarev TT-30; this example was produced in 1935. TT-30 pistols were manufactured during 1933–35, with fewer than 100,000 being produced.

of these 1,000 pistols were delivered for the trials (Datig 1990: 39). After the trials some recommendations were made for improvements, primarily to simplify manufacture. For example, changes in the locking lugs allowed the barrel to be machined more readily. On the original TT-30 design, the back strap was machined as a separate piece to allow easy access to the trigger return spring. The back strap would be machined as part of the frame on future production. During the process of implementing these improvements, an estimated 93,000 TT-30s were produced before production switched to the improved TT-33 in 1936 (Ezell 1981: 523). Datig (1990: 41) is more specific about production dates and states that production of the TT-33 actually started during 1935. There is also some confusion about the scarcity of surviving examples of the TT-30 with serial numbers below 2000; Remling (1984: 15) speculates that most of these pistols may have been destroyed or cannibalized due to slide failures, resulting in a change in the heat-treating process.

Various authorities, when speaking of the earliest production TT-33 pistols of 1935, 1936 and 1937, make reference to their high quality. Especially notable was the mirror dark-blue/black finish of these pistols.

After the German invasion of the Soviet Union in June 1941, 26 armament plants in Leningrad, Moscow and Tula were dismantled and shipped further east between July and November 1941. Thus, there was a gap in production of the TT-33 for a few months. The new Izhevsk Factory 74 commenced production in November 1941, but had only produced 17,000 TT-33s by the end of the year. During 1942, Izhevsk Factory 74 produced another 116,000 TT-33s prior to production shifting once again to Izhevsk Factory 622, where TT-33s would be produced for the rest of the war. Total TT-33 production for World War II was 1,059,687 (White 2020: 35).

Rear view of the TT-30 showing its removable back strap, which was eliminated on the TT-33 to facilitate production.

According to White (2020: 37), production of the TT-33 took place at three factories: Tula Factory 314 from 1933 to 1941; Izhevsk Factory 74 from 1941 to 1942 and Izhevsk Factory 622 from 1942 to 1953. As was typical of the Soviet Union, there were yearly plans for the industrial production of TT-33s and other weapons. It is interesting to note that planned 1943 TT-33 production at Izhevsk Factory 622 was 237,000, while actual production was 237,299 (White 2020: 36). White also describes the quality-control reports on the TT-33 for 1943. He notes that pistols returned for work after inspection ran as high as 53 per cent in March to as low as 18.8 per cent in October. This increased acceptance rate may be indicative of a learning curve. The three most common causes for failing inspection were feed problems, trigger problems and the slide not cycling properly. Other tests were run during 1943 for service life, which for the TT-33 was considered to be 3,000 rounds. Five of six TT-33s tested passed the test. Tests were also run on parts interchangeability, with all but one of 120 TT-33s tested passing. For the year 1943 the average rate of return from final inspection was 11.7 per cent (White 2020: 36). It should be borne in mind that a pistol returned from final inspection would not normally be scrapped but would have the problem fixed prior to sending it back for re-inspection.

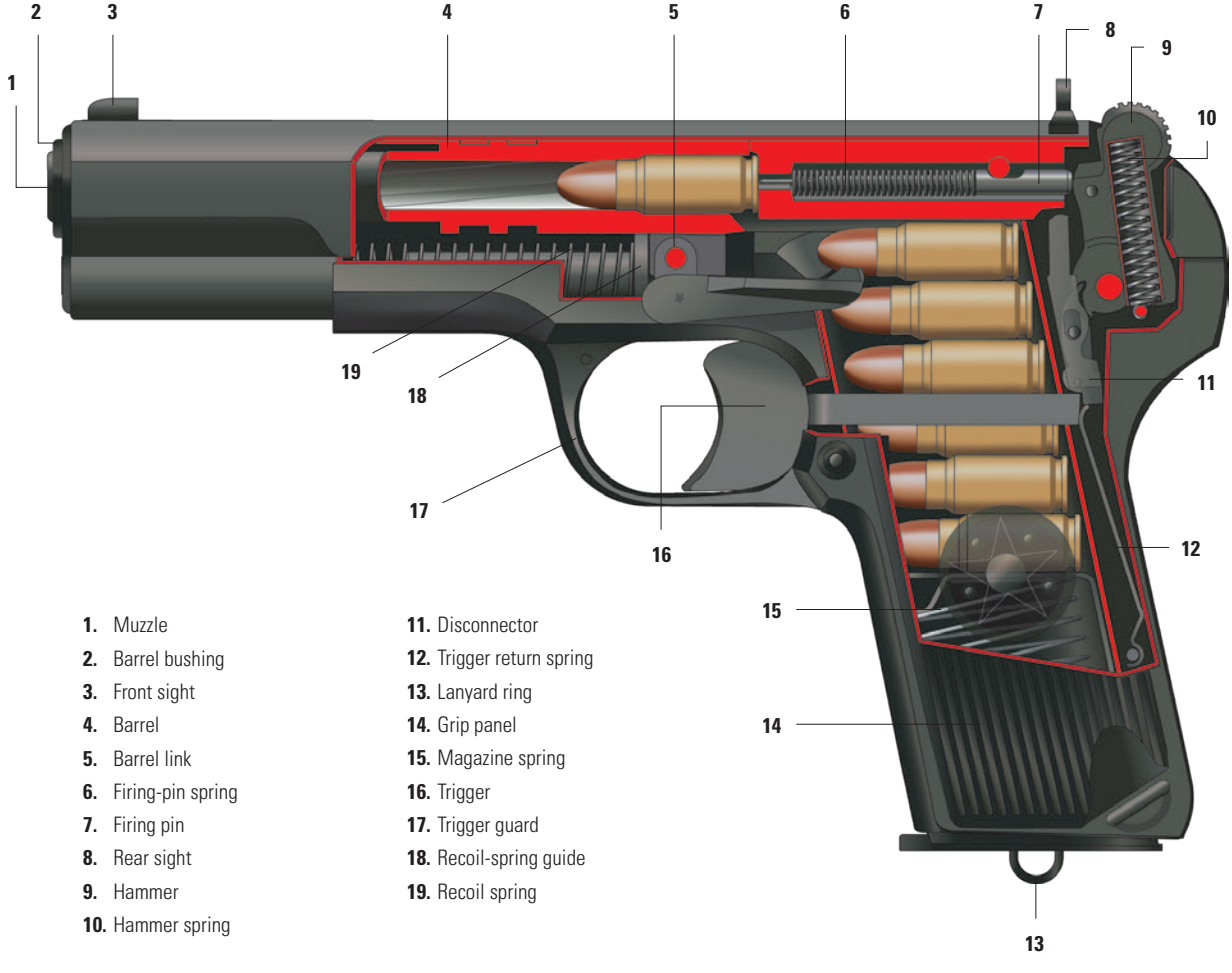
A TT-33 disassembled, showing its primary component parts; note the hammer group, which may be removed as one unit for maintenance. Note also the swinging link as used on Colt/Browning pistols.

Wartime production of the TT-33 during 1942–45 reveals some shortcuts adopted to achieve the speedy delivery of pistols. Finish and polishing are rougher and coarsely chequered or serrated wood grips are used instead of the black hard-rubber grips on pre-war pistols. Magazines produced during the war often lack the lanyard ring present on pre-war TT-33s.

Production of TT-33s slackened after the end of the war, with the standard of finish improving and the style of grips resembling those produced prior to World War II. There were also a few minor changes in post-war TT-33s, most notably a slightly taller rear sight and thinner slide serrations. Total Soviet Tokarev production is best documented by White (2020), who states that between 1930 and 1945, 1,653,188 TT-30 and TT-33 pistols were produced; his estimate of post-war production is approximately 46,000. The low production in the final years can be

THE TOKAREV EXPOSED

7.62×25mm TT-33



1. Muzzle
2. Barrel bushing
3. Front sight
4. Barrel
5. Barrel link
6. Firing-pin spring
7. Firing pin
8. Rear sight
9. Hammer
10. Hammer spring
11. Disconnector
12. Trigger return spring
13. Lanyard ring
14. Grip panel
15. Magazine spring
16. Trigger
17. Trigger guard
18. Recoil-spring guide
19. Recoil spring

The TT-33 has a relatively comfortable grip and it balances well in the hand. Though the sights are rudimentary, they are readily acquired allowing rapid engagement of an enemy. There is a tradeoff related to rapid engagement and safety, however, as the TT-33 lacks an external safety. Hence, the safest method for carrying the TT-33 is with the chamber empty, thus requiring the slide to be retracted and released to ready the pistol for use. As the recoil spring is relatively stiff on the TT-33 it takes some effort to retract the slide to chamber a round. Users of the pistol found that this process could be made somewhat easier by carrying the pistol with an empty chamber and having the hammer cocked as this eliminated the need to pull the slide to the rear against the resistance of the hammer. Though the 7.62×25mm Tokarev cartridge is a high-velocity round, the TT-33 is heavy enough that recoil is not especially unpleasant.

A TT-33 along with an issue holster of typical design.

attributed to the surplus of TT-33s available from World War II as well as the development of the TT-33's replacement, the Makarov pistol.

Though they were not produced in quantity, for training use small-calibre versions of the Tokarev exist at least in prototype form. Datig (1990: 103–15) discusses the TT-3 and the TT-4 pistols in .22 Long Rifle calibre. His conclusion, based on an illustration of the TT-3's chamber, is that it uses a floating recoil chamber similar to the one developed by David 'Carbine' Williams for use in the Colt Service Model ACE pistol. Datig also speculates that the TT-4 was intended as a match pistol with a longer barrel.

THE MAKAROV PM

It is interesting to note that the actual production life of the TT-33 pistol in the Soviet Union was only 21 years compared to the Nagant M1895 revolver, which was produced for 50 years. The continued production of the M1895 during World War II may be explained at least partially by the exigencies of war, but there remained a belief as well that there were deficiencies in the TT-33 when compared to the M1895: the TT-33 was more difficult to fire through a tank's viewport, the magazine could be ejected involuntarily and stress on the firing pin decreased the pistol's service life. In fact, as early as 17 May 1938 People's Commissar of Defence Industry Mikhail Moiseyevich Kaganovich announced a competition for a new 7.62mm pistol design. Various designs were submitted, including one by Tokarev. The winning design, by Pavel V. Voyevodin, was for an 18-round pistol; however, the German invasion of the Soviet Union halted its development and trials (Datig 1990: 95–97).

Although the replacement pistol for the TT-33 as envisaged before World War II had retained the 7.62×25mm Tokarev cartridge, when the TT-33's replacement was finally adopted, it incorporated a new cartridge and a new pistol design, both influenced by the Soviet occupation of Zella-Mehlis where the Walther manufacturing plant was located. US Army Ordnance Intelligence personnel had managed to reach the site two hours ahead of the Soviets and had grabbed everything of importance they could, including prototype weapons, technical drawings and other documents – and Fritz Walther himself (Datig 1988: 27). Nevertheless, the Soviets appropriated tooling and designs from the Walther plant, and the designs influenced the new Soviet service pistol. The Soviets had been impressed by various German weapons they had faced, including the *Sturmgewehr* ('assault rifle'), variously known as the MP 43 and the StG 44, which would influence the design of the SKS semi-automatic carbine and AK-47 assault rifle.

Based on the Soviet experience of using handguns during the World War II, in 1945 a new competition to select a replacement for the TT-33 was announced. Requirements included a calibre of either 7.62mm or 9mm but chambered in a lighter, more accurate and reliable pistol. Participating in the design of the new pistol was an all-star team of Soviet weapons designers, including Tokarev, Sergei Gavrilovich Simonov, Pavel V. Voyevodin, Ivan I. Rakov, Nikolai Fyodorovich Makarov and others (Datig 1988: 29). At 31, Makarov was much younger than the better-known Tokarev and Simonov and was likely more open to 'new' ideas – especially those relating to the pistols of Fritz Walther.

Five rounds were considered for the new pistol: 7.62×25mm Tokarev, 9×19mm Parabellum, an experimental 9×18mm round developed by NII-44 and the US .45 ACP and 7.65mm Browning (.32 ACP). Firing tests were carried out with each round using clay slabs with moisture content similar to approximate ballistic gelatine. The clay tests were followed by tests on calf bones of various sizes covered with a 5cm layer of clay. Although the .45 ACP destroyed a larger portion of the bone, the 9×19mm Parabellum and 7.62×25mm Tokarev penetrated better. The 9×18mm

A Makarov PM shown with standard-issue holster and a loaded magazine. Note that the safety is in the down position; hence, the pistol is ready to fire.

round's performance was inferior to the previous three rounds tested, but not by a significant amount. The .32 ACP was inferior to all the others tested. The 9×18mm round offered the best compromise in that it could be used in a blowback pistol (McCollum 2021).

The new pistol was chambered for the 9×18mm round developed by Boris V. Semin (Brown & White 2016: 4). This round, midway between the 9×17mm (.380 ACP) and 9×19mm (9mm Parabellum) rounds in terms of power, could be used in a pistol that employed a simple blowback action as opposed to the locked-breech action used in most military pistols, including the TT-33. This allowed development of a more compact pistol, but also one that was less expensive to produce. It should be noted that the round that would come to be known as the 9×18mm Makarov owed a debt to the Walther 9×18mm Ultra cartridge, originally developed in 1936. The 9×18mm Makarov round employs a shorter, fatter cartridge case than the 9×18mm Ultra round, however, thus allowing use of a heavier, larger-calibre bullet. The 9×18mm Ultra round is loaded with a 9.01mm 94-grain (6.09g) bullet, while the 9×18mm Makarov round is loaded with a 9.27mm 95-grain (6.16g) bullet (Datig 1988: 37).

The pistol designed by Nikolai F. Makarov and which would bear his name also owed a debt to Walther's pistols, including the use of the

trigger guard to release the slide for disassembly and the use of a hammer drop safety. There were also some notable changes from a typical Walther blowback pistol such as the PP. Although some early Walther PPs in 9×17mm calibre were made with a bottom magazine release, later-production PPs employed a magazine-release button positioned on the side of the frame. The Makarov pistol, however, employs a bottom magazine release at the base of the magazine well. The push-button magazine release in the TT-33 had been criticized, as it would allow a magazine to be ejected inadvertently. Also, it should be noted that while the Makarov uses a hammer drop lever on the slide to lower the hammer on a loaded chamber safely, as does the Walther PP, its operation is reversed. On the PP, pushing the hammer drop lever downwards drops the hammer and locks the action. Pushing the hammer drop lever back up allows the PP to be fired with a double-action pull on the trigger. With the Makarov, pushing the hammer drop lever upwards drops the hammer and locks the action and slide, while pushing it downwards allows the Makarov to be fired with a double-action pull on the trigger. As Datig points out (1988: 41), the Nagant M1895 revolver had remained in use during World War II and afterwards, thus an exposed hammer and a double-action trigger pull would be familiar to many Soviet soldiers.

Close-up of a PM pistol showing the bottom magazine release and the lanyard ring.

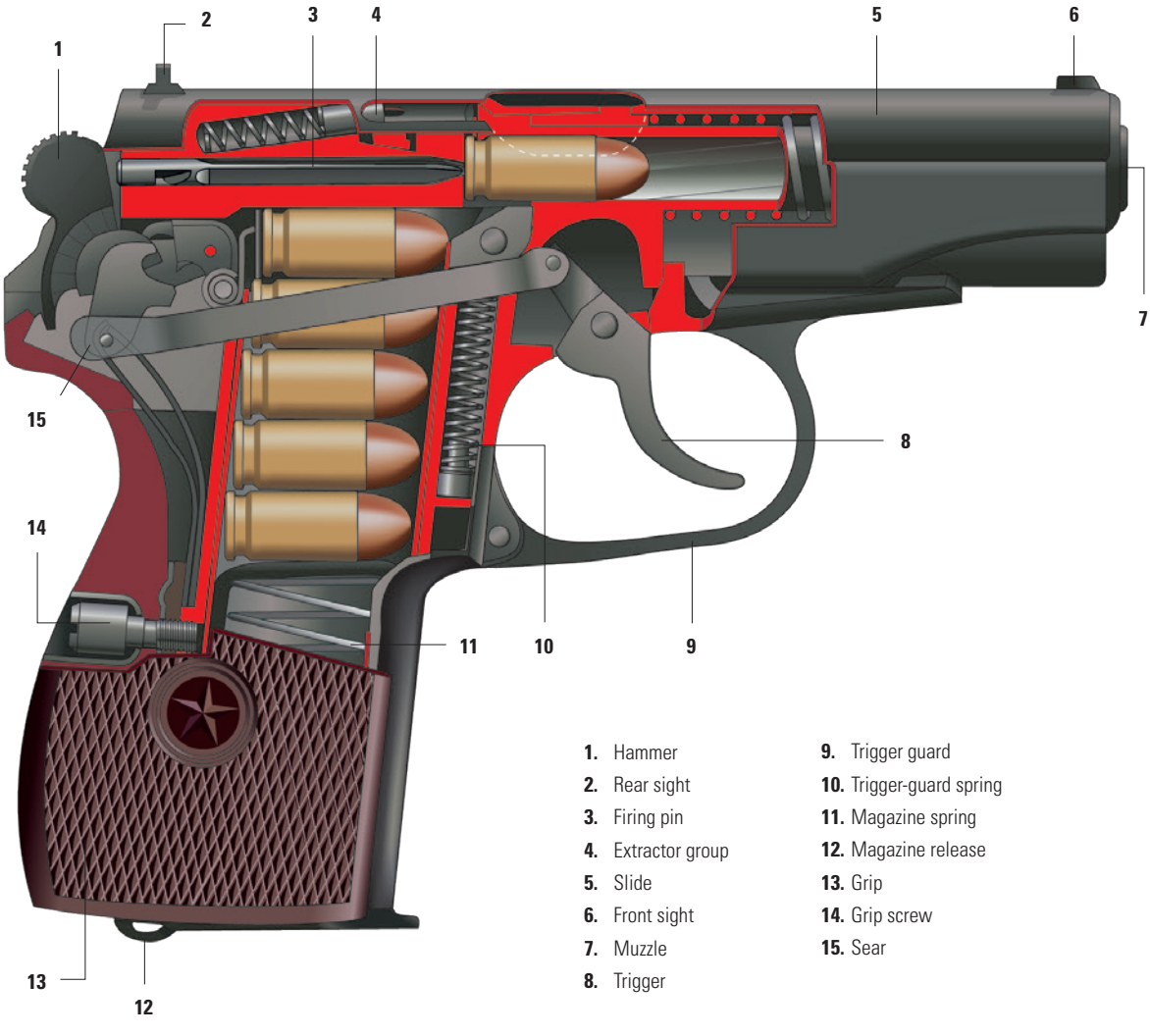
A Makarov PM disassembled for maintenance; note that the trigger guard pulls down to release the slide in the same manner as on the Walther PP and PPK pistols.

Initially, prototype Makarov PM pistols were produced at Tula Arms Plant, but in 1949, PM production was transferred to Izhevsk Factory 622. In addition to the early PM pistols, the same factory was also still producing TT-33 pistols as well as SKS and AK-47 rifles. Approximately 5,000 PMs were completed in 1949 for troop trials. The Makarov pistol was officially adopted in 1951 as the PM or *Pistolet Makarova* ('Makarov's Pistol'); full-scale production did not begin until 1953, however (Brown & White 2016: 5).

As adopted, the PM was a recoil-operated (blowback – unlocked bolt) pistol with a fixed barrel. Its first shot could be fired by a double-action pull on the trigger, while subsequent shots could be fired single action as the slide action cocked the hammer. Note that trigger pull for the PM is usually given at 5.4kg double action and 1.8kg single action. Alternatively, for the first shot the hammer could be cocked for a lighter trigger pull. As discussed above, there was a de-cocking mechanism for safely dropping the hammer with a loaded chamber. Similarities to the Walther PP have been mentioned above, as has the difference in operation of the de-cocking lever. Another difference is that the while the PP's coiled hammer spring gives the impetus to hammer fall, the PM's double mainspring performs multiple additional functions: disconnector spring as well as magazine retention and release spring and catch. This combination of function requires fewer components and thus reduces the cost of production.

THE MAKAROV REVEALED

9×18mm PM



1. Hammer
2. Rear sight
3. Firing pin
4. Extractor group
5. Slide
6. Front sight
7. Muzzle
8. Trigger
9. Trigger guard
10. Trigger-guard spring
11. Magazine spring
12. Magazine release
13. Grip
14. Grip screw
15. Sear

Maintaining the PM is easy as the pistol was designed to be as 'soldier proof' as possible. The PM's design eliminates small parts which are not captive that might become lost. As some 9×18mm cartridges employed corrosive primers, cleaning was important, though the PM's chromed barrel would inhibit corrosion. A cleaning rod is included with the issue holster. After removing the magazine, pulling down the trigger guard allows the slide to be removed to give access to the barrel and internal parts for cleaning and oiling.

Unlike the PP, the PM has an external slide-release lever. The barrel of the PM is chrome-lined – an important feature given Soviet use of corrosive ammunition – while the PP's is not. Another difference is that the magazine for the PM is skeletonized, while that of the PP is enclosed with inspection holes.

As full-scale production of the PM began in 1953, some changes were introduced in the design. Brown Bakelite grips and an un-chequered back strap replaced the black, chequered grips and chequered back strap, which had caused discomfort when firing the pistol. Some machining around the trigger guard deemed unnecessary was discontinued; and the 'automatic slide release', allowing the open slide to move forward and chamber a round when a magazine was inserted, was eliminated. The critical mainspring was also strengthened at this time (Brown & White 2016: 6–7).

As more PMs were produced, the design was further tweaked to improve the pistol and also to simplify its manufacture. As of 1955, a new frame was introduced that simplified machining, reduced weight, and also provided more room for the trigger finger within the trigger guard (Brown & White 2016: 9). This last feature was important for a pistol used in the Russian winter when gloves would be worn. The manufacturing process consisted primarily of machining parts from steel forgings. The blue oxide finish proved notably durable.

Over the next decades the PM saw service with Soviet armed forces in various parts of the globe, but especially in Afghanistan. Combat in harsh environments frequently tests small-arms designs but the PM seems to have performed reliably, though in the 1970s the ejection port on the slide was increased in size slightly, presumably to aid in the reliable ejection of spent cartridge cases. As the ejection port's opening was increased in size at both the front and on top, it was necessary to reduce the width of the sighting rib atop the PM's slide.

Beginning around 1976, PM triggers, hammers and safeties were manufactured using investment castings. These are easily identified by their blue/black colour instead of the previous reddish finish used on milled parts (Brown & White 2016: 17). One interesting feature of the PM the author has always found to be indicative of the Russian tendency to design for practicality is that unlike most semi-automatic pistols, the number of slide serrations on the rear of the slide (to give a secure grip when pulling the slide back) differs. During 1955–83, there were ten serrations on the left rear of the slide and 17 on the right rear. This uneven distribution presumably saves machining time and is based on the predominance of right-handed troops. According to Brown and White (2016: 23), for a time during 1983, PM slides had 18 rather than 17 serrations on the right side of the slide.

During the PM's years of production, there were some attempts to modernize the design. In the 1960s, an experimental PM with a polymer frame, designated TKB-023, was developed and tested, but according to Brown and White (2016: 25), the durability of the polymer frame was questioned. Note that this was prior to the introduction of the polymer-framed Glock pistol in 1982.

THE MAKAROV PB AND PMM

A variant of the PM known as the PB (*Pistolet Besshumniy*, 'Silent Pistol') is an integrally suppressed version that uses a twin-chamber suppressor. Its barrel is lengthened to 105mm and incorporates ten holes that bleed off gas into a barrel shroud containing six layers of steel mesh.

The Makarov pistol's primary design shortcoming was that its chambering for the 9×18mm round was at the upper limit that a blowback design could handle. During the 1980s, the product-improved version of the PM, the PMM (*Pistolet Makarova Modernizirovannyy*) was developed, the second 'M' standing for 'Modernized'. Though the PMM was introduced in 1990, production did not begin until 1994. By then newer designs were under development, but the large supply of 9×18mm ammunition on hand made the prospect of an updated PM appealing. 'Improvements' included a double-column 12-round magazine and more ergonomic polymer stocks for the widened grips.

A more powerful 9×18mm round designated the 57-N-181SM was developed for the PMM pistol. Its ballistic data is usually cited as a 420m/sec muzzle velocity, which is at least 25 per cent greater than the standard PM's 57-N-181S round. It also employs a truncated-cone bullet. Another loading, the SP-7 round's 92.6-grain (6.00g) hollow-point polymer-nose bullet, is designed for enhanced stopping power. Still another loading, the SP-8, uses a frangible bullet and was reportedly used by Russian air marshals. Finally, there is a PBM armour-piercing load (Jones & Ness 2007: 611).

To handle the 'hotter' loadings the PMM has three spiral grooves in the chamber to delay the blowback action. However, the PMM also works reliably with standard 9×18mm loads. In fact, only a limited number of PMM pistols were ever issued to Russian troops and those generally were loaded with the standard cartridge to prevent 'hotter' cartridges being accidentally used in standard PM pistols.

The PB suppressed version of the Makarov PM was used by Soviet special operators for decades. Reportedly, the suppressor lowers the PB's sound signature to 127dB as compared to a non-suppressed PM, which has a signature of 158dB (Dater 1990).
(TASS via Getty Images)

THE STECHKIN

Various Soviet designers, including Tokarev, had attempted to design a 'pistol carbine' or, in more modern terminology, a 'machine pistol'. A Soviet post-World War II design would arguably become the most effective 'machine pistol' for decades, if not of all time, the only real challenger being the Belgian 5.7×28mm FN P90. Designed by Igor Yakovlevich Stechkin (1922–2001), the APS (*Avtomaticheskiy Pistolet Stechkina*, 'Stechkin's Automatic Pistol') was a true machine pistol, offering a choice of semi-auto or full-auto fire. It was chambered for the same 9×18mm round as the PM pistol; hence could be a blowback design. To aid in control of the APS, a plunger-based cyclic-rate reducer receives the transfer of energy as the bolt cycles, with the plunger acting as a disconnector that reduces the cycle rate by 25 per cent or more (Nathaniel F. 2015).

The APS disassembled; note that it is a blowback design that is disassembled by locking the trigger guard down and pulling the slide to the rear, then lifting it up and sliding it forward off the barrel.

The 9×18mm chambering also allows the APS to be more controllable on full-auto fire. The author, for example, firing full-auto bursts with an APS without the shoulder stock attached has kept all 20 rounds on a man-sized target at 9m.

Stechkin was in his late twenties when he developed the APS. According to Datig (1988: 79), the APS was adopted at the same time as the Makarov PM, with the intent to arm junior officers, sergeants and some other specialized troops with a weapon more effective than the standard pistol but less cumbersome than a rifle. In effect, it would serve the purpose of the M1 Carbine in the US armed forces. In his memoirs, Stechkin stated that he had been tasked with developing a pistol which would allow effective fire to 200m. Perhaps the 200m goal explains the rather optimistic rear sight of the APS, which has four blades mounted on a drum or wheel and regulated for 25m, 50m, 100m and 200m. The earliest APS holster stocks were made of wood, but by 1953 or 1954 they were of polymer.

A version of the APS designated the PMS-1 in 9×19mm Parabellum calibre was developed for export sales. For use by Russian *spetsnaz* (special forces), the Stechkin APS-B, also known as the APB (*Automaticheskiy Pistolet Besshumniy*, 'Automatic Silent Pistol'), was available. This version of the APS was chambered in 9×18mm calibre and had a suppressor, which could be clipped to its skeleton wire stock and carried with the pistol, stock and suppressor in a large belt holster (Jones & Ness 2007: 69). The APS-B pistols were actually converted to the suppressed version from standard APS pistols by TsNIITochMash weapons design bureau during 1972–73, with approximately 2,000 examples produced. The suppressor body has an 'eccentric' design with most of its bulk below the axis of the bore, thus allowing the standard APS sights to be used (Popenker 2013).

The APS proved useful enough that Stechkin was working on a replacement designated the OTs-33 *Pernach* (Mace) prior to his death. The OTs-33 was also chambered for the 9×18mm round, but instead of the holster stock used a folding steel stock (Nathaniel F. 2015).

Developed for the same 9×18mm round as the PM, the select-fire APS pistol was a machine pistol with a 20-round magazine and a detachable holster stock. The APS remains in use with some Russian special-forces units at the time of writing.

The PSM is especially noteworthy for its slimness; note the PSM (left) and the PM for comparison.

THE PSM PISTOL

The PSM has often been the subject of speculative theories in the West, ranging from it being designed for *mokroye delo* ('wet work') to being a concealment pistol for high-ranking officers and Party officials. There is probably some truth to both theories. One of the most notable features of the PSM is its slimness (18mm). Another important element of the PSM is its 5.45×18mm 7N7 cartridge that utilizes a 41.4-grain (2.68g) gilding metal-clad bullet, which has a steel core and flat point with an air pocket in the nose, and a muzzle velocity of 315m/sec. Also, the bullet is designed to penetrate body armour. The author was involved in some early testing of the 7N7 round, during which the bullet penetrated 20 layers of Kevlar and then a further 250 pages of a telephone directory. Other tests showed penetration as high as 55 layers of Kevlar. This armour-piercing capability is one argument for the theory that the PSM was designed as a highly concealable assassination weapon. It is noteworthy that trials of the PSM included performance at various temperatures and in harsh environments such as sand and dirt. This would indicate the intent for its use in a military/paramilitary environment.

Datig (1988: 107) hypothesizes that the PSM and the 7N7 cartridge were introduced in 1974 along with the AK-74 assault rifle in 5.45×39mm calibre. He bases this assumption on the Soviet practice of introducing rifles and pistols taking the same-diameter bullets at the same time. Other sources place the PSM's introduction during 1973. The PSM was created by a team of three designers: Tikhon Ivanovich Lashnev (1919–88), Lev Leonidovich Kulikov (1931–) and Anatoliy Alekseevich Simarin (1936–91). Lashnev had helped evacuate Tula Arms Plant further east during World War II. The 5.45×18mm 7N7 round was developed by Antonina Dmitrievna Denisova, a female designer (Datig 1988: 107–09).

The slender PSM pistol has always been shrouded in mystery, but it is generally accepted that it has seen use with high-ranking officers and, possibly, as an assassination pistol as its cartridge is designed to allow the bullet to penetrate ballistic body armour. The PSM (left) is shown with a PM for comparison.

As with the Makarov and many other Warsaw Pact pistols, the PSM owes a debt to the German Walther PP and PPK pistols, being a blowback design that disassembles in the same manner as the PPK. It has a DA/SA action. Its profile is somewhat similar to that of the PPK, but if laid on its side, it is much slimmer. In fact, the PSM is designed for slimness, with a bottom magazine release and a flat de-cocker safety. The de-cocker operates the other way round to that of the PPK, as does the PM pistol. Thin aluminium grips help keep the PSM's profile slim as well. The intent seems to have been to create a pistol that would conceal easily in a pocket (though military versions were issued with a holster). According to Russian sources, this holster was designed for wear in the cross-draw position (Monetchikov 2015: 299).

The PSM's 5.45×18mm 7N7 round (left) and the PM's 9×18mm round.

It is likely that the PSM has served as a pistol for high-ranking officers and government officials but also for military and intelligence personnel who need a concealment pistol capable of penetrating body armour. The PSM also seems to have served as an engraved presentation pistol for visiting dignitaries or law-enforcement and military personnel working closely with Russian personnel.

The PSM disassembled; its debt to the Walther PP and PPK pistols is obvious.

THE MSP, PSS AND S4M SILENT PISTOLS

The MSP *Groza* (*Malogabaritnyj Spetsialnyj Pistolet*, 'Small Silent Pistol') was introduced in the 1970s, primarily for use by various *spetsnaz* units. Produced at Tula Arms Plant, the MSP was an over-and-under derringer-type pistol firing the 7.62×35mm silent cartridge, which is loaded using a two-round clip. The cartridges use the captive-piston principle. The 'captive' designation arises from the use of a special cartridge rather than a suppressor. This cartridge employs a piston between the propellant and the flat cylindrical projectile with a brass driving-band at the front. Firing the round ignites the propellant in the cartridge case, driving the piston forward to launch the bullet while plugging the end of the cartridge case, thus retaining the flash and sound. Additionally, the mass of the pistol's moving parts during recoil slows the slide as it completes its cycle, thus lessening the noise generated by the slide hitting the stop. Bullets used in the 7.62×35mm silent cartridge appear to be the same as used in the 7.62×39mm AK-47 cartridge (Jones & Ness 2007: 61).

The PSS (*Pistolet Samozaradniy Spetsialniy*, 'Special Self-loading Pistol') is a recoil-operated silent pistol, also chambered for the 7.62×42mm captive-piston cartridge. The PSS's action can be operated in single or double action and its effective range is normally given as 50m (Jones & Ness 2007: 66).

One of the compact assassination weapons developed by the Soviets and captured in 1954 from Captain Nikolai Evgenievich Khokhlov upon his defection to the United States. This three-barrelled derringer-type pistol uses a three-round clip as shown. The weapon appears to be a forerunner of later designs such as the MSP silent pistol. (PhotoQuest/Getty Images)

An SPP-1 four-barrelled underwater pistol cased with its accessories including the magazine, which has capacity for four of the special underwater-stabilized darts. (AirSeaLand Photos)

The S4M Silent Pistol appears to be an improved version of the MSP and is also a two-barrelled derringer-type pistol. Its 7.62×68.2mm cartridge uses the captive-piston system for noise and flash abatement, as per other Russian silent pistols. As with the MSP, a two-round clip carries the cartridges; 7.62×39mm AK-47 bullets are used with the S4M as with the MSP (Jones & Ness 2007: 66). Note that the use of standard AK-47 bullets and rifling in the MSP mimics that of the AK-47 and helps conceal from what range a killing shot has been fired – perhaps it was a sniper at 200m.

THE SPP-1 AND SPP-1M UNDERWATER PISTOLS

Developed during the 1960s and early 1970s for Soviet special-operations forces, the SPP-1 (*Spetsialniy Pistolet Podvodniy*, 'Special Underwater Pistol') is a four-barrelled pistol that fires underwater-stabilized darts. Range varies by depth: near the surface the dart may be fired to 17m, while at a depth of 40m effective range is only 6m. Out of the water, the effective range given in Russian sources is 50m. The 4.5×39mm darts are contained in a four-round clip, which is loaded into the barrels of the pistol. Firing takes place with a double-action pull on the trigger. The SPP-1M (M for *Modernizirovannyy*, 'Modernized') incorporates an improved trigger pull and larger trigger guard to accommodate diving gloves (Jones & Ness 2007: 68–69).

USE

Soviet handguns in action

This Finnish soldier appears to be firing a captured Nagant M1895 at an aerial target or, perhaps, checking its sights. (SA-kuva)

SOVIET HANDGUNS BEFORE 1939

Although World War I Russian memoirs are difficult to find in English, it can be assumed that the handguns used on the Eastern Front included the Nagant M1895 revolver as well as some earlier types such as the Smith & Wesson Russian revolvers. During the Russian Revolution, these same handguns would have been ubiquitous. The Mauser C96 'Bolo' model also saw substantial use among the Bolsheviks, hence its name.

Fragments of information about the use of M1895 revolvers in World War I are available. For example, signals troops were armed with an M1895, a *shashka* Cossack-type sword and a trumpet. Reportedly, the M1895 holsters issued to the cavalry during the Tsarist period were 'left-handed' but worn on the right side in the manner of other cavalry units (jleiper 2008).

Also indicative of the handguns available in Russia during World War I and the Russian Revolution are the weapons used to execute the Romanov family at Yekaterinburg on 16–17 July 1918. These included two .45 Colt M1911 pistols, two 7.63mm Mauser C96 pistols, three 9.4mm Nagant M1878 revolvers, four 7.62mm Nagant M1895 revolvers, one .44 Smith & Wesson revolver, one 7.65mm FN Browning M1900 pistol and one 6.35mm Browning M1906 pistol.

Prior to the Russian Revolution, private handgun ownership in Russia was widespread; however, as the Soviet regime tightened its grip on Russia and the neighbouring republics, the state-security agencies enforced laws prohibiting virtually anyone without official standing from owning a handgun. They feared that a well-armed populace could stage a counter-revolution. Of course, the new regulations did not deter Fanny Efimova Kaplan, a 28-year-old Socialist Revolutionary, from firing three shots at Lenin with an FN Browning M1900 pistol on 30 August 1918.

THE M1895: THE SOLDIERS' VERDICT

As is typical of Soviet weapons, one of the great strengths during the M1895 revolver's years of service was its durability and uncomplicated manual of arms. The M1895 is also safer than most other revolvers, which can burn the support hand with hot gases escaping from the front of the cylinder should the hand stray too near. The gas seal of the M1895 mitigates such admittedly rare accidents.

A feature of the M1895 that may have made it appealing to the Russians as more 'soldier proof' was its transfer bar system, which prevented the firing pin from touching a cartridge until the trigger was pulled completely through its operating sequence. As the firing pin is longer than normal because it must reach the cartridge's primer when the cylinder has moved forward to 'seal', the transfer bar is an important safety feature (Campbell 2020).

Most likely attributable to the M1895's gas-seal design, the 7.62×38mmR bullet performed relatively well for a .30-calibre round. At least one source claims that Tsar Nicholas II of Russia (r. 1894–1917) took an interest in the 7.62×38mmR cartridge, as he felt a cartridge loaded with smokeless powder would make the firing positions of Russian soldiers less easy to spot (Campbell 2020). Fired from the M1895's 114.5mm barrel the bullet would penetrate 20cm of white-pine boards at 20m distance (Taylerson 1970: 182). Compared to the performance of the .44 S&W Russian cartridge, which propelled a 246-grain (15.94g) bullet at 229m/sec, the M1895 offered a lighter, high-speed bullet with greater penetration but less 'knock-down' power. Standard muzzle velocity given in some sources for the Nagant M1895 is 271m/sec; other sources give a muzzle velocity of 327m/sec. Although both the 7.62×38mmR Pieper load and the 7.62×38mmR Russian Nagant load will chamber in the M1895, performance is markedly different. Reportedly, the Pieper loading propelled a 108-grain (7.00g) FMJ bullet at 221m/sec, while the Russian Nagant loading propelled a 108-grain FMJ bullet at 336m/sec. The Russian military loading was obviously intended to enhance battlefield performance of the 7.62×38mmR cartridge. At the time of writing, the most commonly available loading of the 7.62×38mmR cartridge is from Fiocchi and has a muzzle velocity of 229m/sec, as it is loaded down to allow for use in older revolvers.

An M1895 revolver with the hammer down and the cylinder in the rearward position.

An M1895 revolver with the hammer cocked and the cylinder moved forward to form the gas seal at the front of the cylinder.

Kaplan was captured and executed shortly thereafter. Questions remain to this day as to whether Kaplan was the person who actually fired the shots, or whether the assassination attempt was staged to provide an excuse to eliminate a lot of opposition members among other Socialist groups.

The Nagant M1895 continued to be the primary handgun issued to Soviet troops throughout the 1920s. However, a scandal later in that decade revealed that the quality of some of those revolvers may have been

In the 1930s, Soviet officers study a map; the officer in the foreground carries a Nagant M1895 revolver in a hard-shell holster. (mccool/Alamy Stock Photo)

sub-standard. On 15 October 1929, executives of Tula Arms Plant deliberately sabotaged production of Degtyaryov machine guns by using low-quality steel in the manufacturing process. During the investigation it was also alleged that inferior steel had been used to produce Nagant revolvers and Mosin rifles since 1921.

A pre-war (1938) TT-33 displaying a higher-quality finish than wartime-production versions.

SOVIET HANDGUNS IN THE WINTER WAR AND THE GREAT PATRIOTIC WAR

Although a few TT-33 pistols saw action in the Spanish Civil War (1936–39), the first major combat trial of the new Soviet self-loader was during the Winter War (1939–40) against Finland. Of course, Finland captured so many Soviet weapons during the Winter War that the TT-33 – as well as the PPD-34, -38 and -40 submachine guns – saw extensive use by Finnish troops until the supply of captured 7.62×25mm Tokarev ammunition ran out. While statistics are not available concerning the number of weapons captured by the Finns, during 1941–43, in the first part of the Continuation War (1941–44), Finnish forces captured 751 handguns and 2.3 million rounds of pistol ammunition from their Soviet opponents (Kormy 2005). An indication of the number of Nagant revolvers and Tokarev pistols captured by the Finns is that one of the best collections of Soviet handguns in the United States is actually that of a Finnish handgun collector, which includes 'SA'-marked pistols purchased or captured by the Finns.

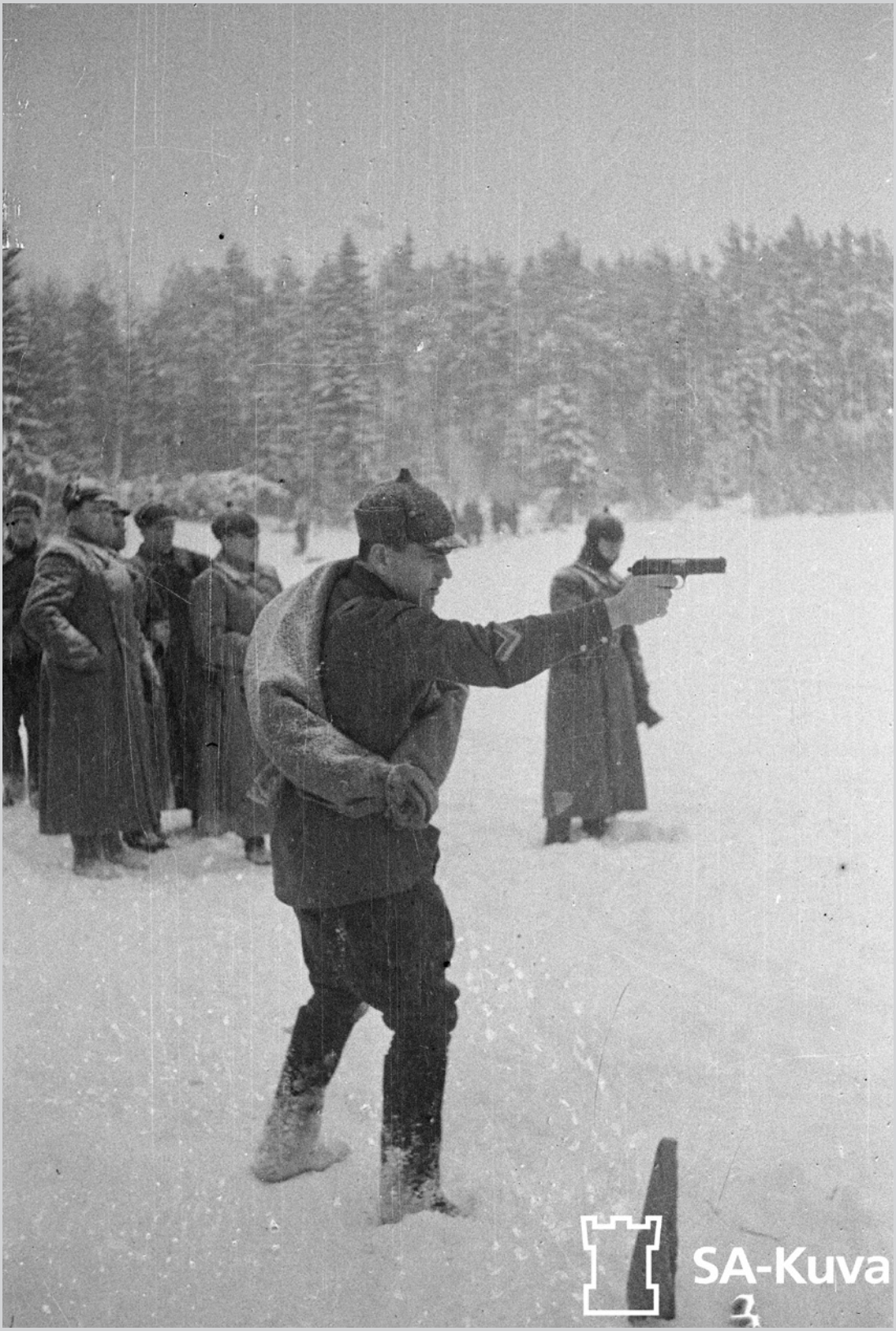
World War II-era Soviet soldiers wearing snow camouflage pose for the camera. The soldier with a pair of binoculars holds a TT-33. Although it would be possible to use the TT-33 while wearing a relatively thin glove, heavy mittens would not allow use of the trigger; hence, he has removed his glove. The white lanyard would help retrieve the pistol if it was dropped in the snow. The man behind him also appears to have a drawn TT-33, while the man at right has an SVT-40 semi-automatic rifle. (AirSeaLand Photos)

TOKAREVS IN OTHER HANDS DURING WORLD WAR II

During World War II, both Finland and Germany used TT pistols they had captured from the Red Army, though the Germans had the advantage of having 7.63×25mm Mauser ammunition, which could be fired by the TT-33, in the supply system. In the course of the massive conflict on the Eastern Front in World War II, German forces captured significant numbers of TT-33s and re-issued them to their troops as the Pistole 615(r). The captured Tokarev pistols fitted well into Germany's ammunition logistics as the German 7.63×25mm Mauser cartridge can be used in the TT-33 – however, the Soviet 7.62×25mm Tokarev cartridge should not have been used in German pistols because of the 'hotter' loading for submachine guns. Most of the captured TT-33s were issued to units on the Eastern Front, but some ended up in the hands of German troops fighting against US units in the West. Accordingly, a fair number of the TT-33s were captured and brought home by GIs – unusual war trophies that epitomized the global nature of World War II.

OPPOSITE
A Finnish soldier firing a captured TT-33. The Finns have a long tradition of marksmanship and shooting competitions. As a result, this Finnish soldier has assumed a stance typical of one-handed match shooting of the time. The Finns captured large quantities of 7.62×25mm ammunition, which they used in captured TT-33 pistols and PPSh-41 submachine guns. (SA-kuva)

A Soviet general presents Major General Willard Gordon Wyman, commander of the US Army's 71st Infantry Division, with the Tokarev pistol he carried during the battle of Stalingrad when the two Allies' forces met in Austria on 10 May 1945. (Photo12/UIG/Getty Images)


SA-Kuva

The Red Army's use of small arms in World War II is well documented and there are some notable examples of handgun usage. An interesting example is Soviet cavalry, including the Cossacks. Logically, cavalry troops would be armed with the M1895 rather than the TT-33, as the Tokarev's lack of a safety would make its use while controlling the horse dangerous for both mount and rider. Although the carbine was standard issue along with the sabre for Soviet cavalrymen, officers, NCOs and machine-gunners were armed with a revolver instead of a carbine (Harrel 2019: 71). An interesting Soviet cavalry exercise was called *Djigtovka*, which entailed galloping to recover lost equipment such as a sabre or revolver from horseback (Harrel 2019: 66). Harrel also offers the example of Cossack Captain Wolochine, an admirer of Confederate cavalrymen Major General James 'Jeb' Stuart and Colonel John Mosby, who drew his pistol (probably a revolver) instead of his sabre and charged the enemy (Harrel 2019: 37).

During World War II, Cossacks who sided with the Germans and fought under the command of Generalleutnant Helmuth von Pannwitz against the Red Army – though mostly against partisans – were issued captured TT-33 pistols, though it is not clear how they fared in mounted combat.

The Nagant M1895 revolver was still issued widely in World War II and was especially popular with partisans. Nikolai Obryn'ba (2007: 207) describes a partisan dressed in black, trousers tucked into the tops of his jackboots and carrying a revolver along with two F-1 hand grenades hanging from his shoulder belt. He was viewed as one of the elite, a machine-gunner or an anti-tank rifleman. The partisans valued handguns as concealable weaponry, but also as symbols of their

A young female partisan takes aim with an M1895 revolver. The M1895 has the advantage of being simpler and safer to use than the TT-33 pistol by untrained partisans. (AirSeaLand Photos)

Prior to World War II, the Soviets had issued the FN Browning M1900, M1903 and M1905 pistols, normally to officers. As a result, there was an appreciation for FN Browning pistols. Here, a Soviet soldier instructs partisans in the features of a captured FN M1935 High-Power pistol. The pistol shown is almost certainly a captured German High-Power, which was designated the 9mm Pistole 640(b) in German service. (AirSeaLand Photos)

commitment to battle. According to one source (Grenkevich 1999: 242), between May 1943 and January 1944, the Central Headquarters for the Partisan Movement sent 5,710 handguns to partisan units. An important source of handguns and other weapons for the partisans were the stocks of weapons kept at Soviet secondary or vocational schools for pre-military training.

One reported incident (Hudson 2007) shows how propinquity could make the M1895 invaluable. A young soldier named Timofey Bogrov was huddled in a trench when three German soldiers jumped in and captured him, while his rifle was out of his reach. Feeling they had the young Russian under control, the three Germans moved away a short distance, allowing Bogrov to draw an M1895 from his pocket and kill all three of the Germans. Hudson also reports that during the period when Tula Arms Plant was being moved east, 'Workers' Battalions' were formed, mostly of Tula employees. Of the 675 workers in these battalions, 145 were armed only with M1895 revolvers.

Among the most avid proponents of the TT-33 pistol were Soviet snipers, who relied on their pistols for use at close range when deploying their scoped rifle might not have been practical, as well as for personal defence – and possibly to avoid a painful death should they be taken prisoner, given that captured snipers tended to be treated harshly.

Yevgeni Nikolaev, who was a sniper during the war, also served as a scout. Nikolaev (2017: 151–53) mentions that prior to going on a trench raid during the fighting outside Leningrad, he checked and oiled his weapons, which included a Tokarev pistol as well as a Nagant revolver and a small Walther pistol (presumably taken from a dead German

Among users of the TT-33 were Red Army tank crews; shown is a tanker's uniform along with an early-war TT-33 with standard black grips (at left) and a late-war example with roughly chequered wood grips.

soldier). Additionally, he carried five grenades and a Finnish *puukko* fighting knife, plus a three-colour signalling light. Nikolaev, as with front-line soldiers in all theatres of World War II, appears to have acquired extra handguns when he had the chance, in order to increase his chances of survival during close combat. He also mentions the possibility of firing through his jacket pocket. This would likely be with the revolver, as the Tokarev or Walther semi-automatic pistols would probably malfunction when fired from within a pocket.

Nikolaev (2017: 162) also relates a story that illustrates the TT-33's accuracy. While he waited to see his regimental commissar, a young woman who was a military investigator for the divisional prosecution office approached him and told him she wanted to learn to shoot with a

Rzhev, 1942 (opposite)

During the Soviet counter-offensive of September 1942, Soviet and German forces clashed west of Moscow in what came to be known as the 'Rzhev Meat Grinder'. Here, a Soviet T-34 medium tank has been knocked out by the Germans. A member of the tank crew with his TT-33 pistol drawn has helped evacuate one of his comrades from the burning tank while a female partisan stands watch with her Nagant M1895 revolver drawn. M1895 revolvers were often used by partisans as they were more readily available than the TT-33 pistol, having been in service for almost half a century. To give themselves more firepower some partisans carried multiple M1895s as reloading the weapons was a slow process.

sniping rifle. To prove her ability she pulled out her TT-33 and fired three shots at the green 'cups' on a telegraph pole, hitting each one with each shot.

Perhaps the most famous Soviet sniper who appreciated the TT-33 was Lyudmila Mikhailovna Pavlichenko – 'Lady Death' – who it seems was something of a handgun enthusiast (she discusses pistols extensively in her memoir). As with many other World War II snipers, Pavlichenko carried a pistol as a secondary weapon to her sniping rifle. Her preferred handgun was the TT-33 because of its powerful cartridge (Pavlichenko 2018: 37). Her TT-33 was a constant companion for close-range defence, but also because captured snipers were mistreated by the Germans, and in her case she expected that gang-rape would be a prelude to an unpleasant death. Her plan if threatened by imminent capture was to roll a grenade at the enemy's feet, followed by seven rounds from her TT-33 – with the eighth and final round saved for herself (Pavlichenko 2018: 79).

As much as she liked the TT-33, Pavlichenko realized it was a last-resort weapon that if needed indicated the mission had turned bad (Pavlichenko 2018: 94). Because she was so familiar with the TT-33, she expresses some amazement that a fellow officer lost one of the parts for his TT-33 during a test for promotion (Pavlichenko 2018: 105). Although Pavlichenko normally wore her TT-33 everywhere she went, she did surrender it to Stalin's secretary when she had an audience with the Soviet leader (Pavlichenko 2018: 232). Pavlichenko met and married another officer who was killed in combat and she mentions (2018: 142) the ceremonial firing of a salute with their TT-33 pistols by other officers. She was too overcome with grief to draw hers.

Pavlichenko appreciated foreign weapons as well, and was especially impressed with a Walther P 38 pistol she captured (Pavlichenko 2018: 96). As a weapons enthusiast, she was pleased with the Colt M1911 pistol with which she was presented when she visited the United States as a Soviet representative to the International Student Congress in 1942. Along with her TT-33 (serial number PA945) and her captured weapons, the M1911 is on display at the Central Museum of the Russian Federation Armed Forces (Pavlichenko 2018: 249).

Another famous Soviet sniper who appreciated the TT-33 was Vasily Grigoryevich Zaitsev. In his memoir he mentions the use of pistols on more than one occasion. Although it is not specified, it can be presumed that he used a TT-33.

When moving through the factory district in Stalingrad, Zaitsev mentions feeling that he was being watched and un-holstering his pistol. On another occasion, Zaitsev killed two Germans firing from within a building with a pistol he had taken from a fallen comrade, the second by placing the muzzle of his pistol on the base of the German's chin as he leaned out a window, killing him with the last round in the pistol's magazine (Zaitsev 2003: 89). Zaitsev was wounded in the leg during the same encounter; as he and another soldier carried a wounded comrade, Zaitsev, armed with a fully loaded pistol and carrying two grenades, was discovered by other Soviet soldiers before he was required to use them (Zaitsev 2003: 91).

These World War II Soviet aviators participated in bombing raids on Axis Romania, striking Constanța, Sulina and Tulcea. The tallest man wears what appears to be a Soviet Navy-style suspension holster for the TT-33. (AirSeaLand Photos)

Handguns and army watches were considered status symbols among Soviet officers during World War II, though it should be noted that some enlisted NCOs and specialists were issued handguns as well. Merridale (2006: 114) speculates that the most common use of handguns by Soviet officers in World War II was for executing deserters, normally with a shot to the head. Stalin's order 227 dictated no retreat upon penalty of death, and 158,000 men were formally sentenced to execution for cowardice, self-mutilation to avoid combat or otherwise as 'betrayers of the motherland'. Many more were summarily executed by their officers. For example, 13,500 were estimated to have been executed during the defence of Stalingrad (Merridale 2006: 157). Ivan Philippovich Makarov (2020: 19) relates his own experience of a high-ranking general executing a 'traitor'. He witnessed Lieutenant-General Vasily Ivanovich Chuikov pulling a small pistol – likely a Korovin – from his holster and using it to execute a regimental commander who had retreated during fighting along the Don River.

This Soviet soldier serving on the Eastern Front wears his pistol holstered outside his greatcoat to allow ready access. The holster appears to be of standard style as used with the TT-33 but appears shorter than normal, so it is possibly for a Korovin pistol. One advantage of the TT-33 from a logistics point of view is that the 7.62×25mm Tokarev cartridge will work in both the TT-33 and Soviet submachine guns such as this man's primary weapon. (AirSeaLand Photos)

Makarov (2020: 123) has other memories of the use of pistols. He became a scout, and notes that they were armed with assault rifles, grenades, knives and pistols. As Soviet scouts were sometimes armed with captured German weapons, it is not clear whether the pistols were Tokarevs. The pistol was sometimes used because of the lack of medical care available to severely wounded Soviet soldiers. Makarov (2020: 159) mentions a wounded comrade who pulled his TT-33 from the holster and removed the magazine, which he handed to Makarov, stating, 'I only need one.'

SOVIET HANDGUNS AFTER 1945

The transition from the Tokarev TT-33 to the Makarov PM as the primary Soviet military and police handgun happened over decades, with the TT-33 and even the Nagant M1895 revolver remaining in use with some personnel into the 21st century.

The table of organization and equipment for Soviet Army motorized-infantry units gives some insight into issuance of the PM in 1991, during the final months of the Soviet Union (FM-100-2-3: 31). Four were issued to a motorized rifle battalion's headquarters, while the battalion mortar battery received 15; the signals and supply platoons had one each, while the regimental tank company fielded 30. Each motorized rifle platoon had ten PM pistols.

In a motorized rifle company equipped with BMP infantry fighting vehicles, the breakdown of personal weapons for the six personnel assigned to the company headquarters BMP is instructive: the company commander, his deputy, a senior technician and the driver/mechanic each carried a PM, while the first sergeant and the vehicle commander/gunner were armed with the AK-74 assault rifle. There were 42 PMs in each motorized rifle company (FM-100-2-3: 78).

In an airborne company equipped with BMD infantry fighting vehicles, 35 PMs were issued along with 31 AKS-74 assault rifles, nine RPKS-74

May 1986: a Soviet junior officer armed with a PM pistol salutes a group of border guards. Although the PM was of marginal utility on the battlefield, it continued to be worn as a badge of rank throughout the Soviet era. (AirSeaLand Photos)

OPERATING THE MAKAROV PM PISTOL

Loading the Makarov PM will normally occur with the slide forward; however, as the slide will lock open after the last round in a magazine is fired in combat a reload will entail removing the empty magazine, then inserting a full magazine (**1**). In either case, the slide will then have to be released to move forward chambering a round.

To load beginning with the slide forward, the slide will have to be pulled fully to rear and released. (**2**) Note that the hand should not ride forward with the slide as this can cause a failure to fully load the round into the chamber. If a reload has been carried out with the slide locked open, it may be released by using the slide-release lever (**3**) or by gripping the slide and pulling it to the rear to release it and allow it to move forward. Pushing the hammer-drop manual safety to the up position safely drops the hammer and locks the action so that the pistol may not be fired (**4**). Pushing the lever on the slide down unlocks the action so that the pistol may be fired with a double-action pull on the trigger or by cocking the hammer to fire single action (**5**).

Because the PM is light and handy as well as having good ergonomics, it may be brought into action quickly; however, as the pistol does not have an ambidextrous safety, it would be advisable for a left-handed shooter to carry the pistol with the safety in the down position ready for a double-action shot. A right-handed shooter could readily carry the pistol with the thumb safety applied

1

2

3

4

5

6

or not. When the magazine is empty, it may be removed by pressing the magazine release at the base of the grip and pulling the magazine free. If the pistol has been shot until empty, the slide will have locked back; however, if handling a presumed-to-be unloaded pistol, the slide will be forward and the magazine should be removed before pulling back the slide to check that the chamber is empty (**6**).

It should be noted that shooters with experience of Walther pistols will find the operation of the PM's safety counter-intuitive, as the PP, PPK and P 38 pistols require the lever on the slide to be pressed down to drop the hammer and up to fire. Advocates of the PM argue that its system of pushing the safety on the slide up to drop the hammer and make the pistol safe and down to allow the pistol to fire is more logical.

Pictured in June 1989, this pair of Soviet border guards on patrol are reportedly twin brothers hailing from Kiev. The man nearest to the camera carries an AKS-74 assault rifle as well as what appears to be a holstered APS pistol. (AirSeaLand Photos)

light machine guns and nine RPG-16D anti-tank grenade launchers (FM-100-2-3: 175).

The number of rounds issued for use in each PM is given as 16 (FM-100-2-3P: 191).

Another perspective on the wide issuance of the PM can be gained by understanding that the Soviet military system had a much smaller proportion of senior NCOs than most Western armed forces, but a higher percentage of junior officers. For example, a Soviet rifle platoon had fewer than 20 soldiers but was led by a lieutenant, while a US rifle platoon

Angola, 1982 (opposite)

Makarov pistols, along with Soviet and Warsaw Pact military hardware of all kinds, have proliferated in many regions of the world. During the 1970s and 1980s, Soviet and Cuban forces offered assistance to the Popular Movement for the Liberation of Angola (MPLA). Here, two helicopter crew members have survived their Mi-8 having been brought down by a South African surface-to-air missile, and engage the South Africans as they evacuate their downed helicopter. At left, one crewman, probably the pilot, engages with his Makarov PM, while the other crewman brings his 5.45×39mm AKS-74U assault carbine into action to allow better long-range engagement. He has not yet extended its folding stock.

had about 40 soldiers but was also commanded by a lieutenant. Likewise, a Soviet tank platoon led by a lieutenant was composed of three tanks, while a US tank platoon, also led by a lieutenant, was composed of five tanks. More Soviet officers meant more PM pistols.

Viktor Suvorov offers some insights into use of the PM by officers in the Soviet Army and intelligence service. When awakened one morning by his orderly while serving with the 318th Motorized Rifle Division, Suvorov had to retrieve his PM from a safe in the regimental duty officers' room (Suvorov 1986: 7). While training with a *spetsnaz* unit, Suvorov was acting as an umpire on an exercise so did not need a functional pistol (Suvorov 1986: 42). Instead, he was issued a deactivated PM that was worn out and had the chamber bored out so it could not be used with live ammunition. From Suvorov's comments it appears that it was standard operating procedure to convert worn-out PMs to training weapons.

As well as aviation personnel, Soviet cosmonauts were issued the PM, with the Granat-6 survival kit in Soyuz spacecraft including a PM and ammunition. Presumably, this was to secure the spacecraft and aid survival during an emergency or planned landing on Earth. However, there was another weapon carried by cosmonauts: the TP-82 Cosmonaut Survival Pistol, which was a three-barrelled weapon, the top two shotgun barrels of which fired 40-gauge shells and the bottom rifled barrel 5.45×39mm ammunition; it was used from 1986 to 2007.

One group that continued to use the TT-33, especially during the 1990s, was the Russian Mafia, members of which used the pistol to eliminate their enemies. The ubiquity of untraceable TT-33s enhanced the weapon's appeal, as did its penetration if the victim was wearing body armour. The TT-33's lack of a safety made it a choice for killings that were made to appear as if an ND (negligent discharge) was the cause of death. In fact, because self-inflicted gunshot wounds, especially with the TT-33, were so common, Russian homicide investigators were trained to distinguish true NDs from staged ones.

Soviet officers often carried their PM pistols in hidden pockets within their camouflage jackets. Shown is a PM in the pocket in a Naval Infantry camouflage jacket. The PM's compact size and safety features made it popular with many Soviet (and Russian) officers who wanted to be armed but not appear to be so. Both the Russian Army and Navy, in fact, have camouflage jackets that include an internal pocket for a PM, even including a lanyard. A perfect example was Lieutenant Colonel Anatoly Sergeev, the commander of the airborne battalion at the Russian White House on 19 August 1991 when a coup was attempted against President Mikhail Sergeyevich Gorbachev. Summoned to the office of the Minister of Defence, Marshal Dmitry Timofeyovich Yazov, Sergeev wore an empty holster to appear non-threatening to the crowds outside – but he carried his issue PM pistol tucked into his jacket (Schofield 1993: 221).

A Makarov PM equipped with a suppressor; the Soviets also used the integrally suppressed PB pistol. (Militarist/Alamy Stock Photo)

THE PB, APS AND APB IN ACTION

The PB suppressed pistol based on the Makarov PM has seen active service, primarily with *spetsnaz* units. It saw substantial use in Afghanistan against the mujahideen in the 1980s. FSB Alpha, the principal Russian counter-terrorist unit, has also used the PB on operations, and FSB Vympel reportedly used the PB on some raids when it had the counter-proliferation mission.

Developed along with the PM, the APS machine pistol was a much more specialized weapon. Especially useful for Russian special-operations personnel was the APB, the suppressed version of the APS developed by A.S. Neugodov, of which about 2,000 were produced. The APS saw service in Afghanistan with *spetsnaz* personnel, who found its firepower

Beirut, 1985 (overleaf)

After the October 1985 kidnapping of four Soviet diplomats in Beirut, one of whom was murdered and left in the street, operators of KGB Alpha counter-terrorism task force were sent in to rescue the three surviving hostages. Rather than engage in fruitless negotiations, the members of KGB Alpha tapped their intelligence sources to learn the identities of some of the kidnappers, after which they kidnapped some of their male family members. Body parts of these hostages were removed and sent to the families of the kidnappers with the message that parts would keep coming until the diplomats were released. This draconian method of 'negotiation' proved successful as the remaining Soviet hostages were released. Shown are three KGB Alpha operators dressed in civilian clothing taking one of their hostages to a secure location. To keep their presence in the area secret, the two operators in the foreground are armed with a PB integrally suppressed pistol (the operator controlling the hostage) and an APB suppressed pistol with a wire stock. The operator facing away has an unsuppressed APS, which he would only fire if their position was compromised. The operator in the background carries a bag in which the weapons and spare magazines could be concealed if moving through areas where the operators might be observed. The operative in the foreground has put a spare magazine in his pocket for ready access. It is likely that the operators also carry concealed weapons such as PSM pistols and *Ladya* or other switchblade knives.

With practice, the APS is controllable when firing bursts. The author is shown with the result of firing three bursts at 11m. The APS sights were off, throwing the group to the left.

and compact size useful for operations such as clearing caves. At least a few APS pistols were also used by the mujahideen. FSB Alpha reportedly has used the APS/APB for aircraft assaults, presumably loaded with the 9×18mm SP-8 cartridge.

The primary disadvantage of the APS was that the combination of the holster stock flapping against one's side along with the four spare magazines was heavy and uncomfortable. Some other troops found that because of the thick grip required to take the 20-round magazine, operating the safety with the shooting hand was more difficult than with the PM pistol. Another complaint was that the APS was heavy, which made holding it on target more difficult. Some soldiers using the APS in Afghanistan felt that the 9×18mm chambering offered the advantage of using the same ammunition as the PM, but did not achieve the penetration or stopping power of the 5.45×39mm rifle cartridge used in the AKS-74U assault carbine (Johnson 2019).

The author, who has substantial experience firing both the APS and the AKSU, agrees that the AKSU is more desirable because of the capabilities of its rifle-calibre chambering. However, he has found the APS to be quite usable in close-quarter combat scenarios and has found it quite controllable when firing in bursts. In fact, he has also found it surprisingly controllable when firing it in short bursts without the holster stock attached. Although the detachable wire stock of the APB is more convenient than the APS's holster stock, the author has found it harder to hold the detachable wire stock in place than the holster stock when firing bursts. On the other hand, the APB is more controllable due to the weight on the muzzle, which counters muzzle rise. The author has fired most modern machine pistols and rates the APS the best of those he has used.

A former KGB agent who served with the Ninth Chief Directorate told the author that he often carried an APS in a shoulder holster, but without the shoulder stock. He felt that the APS gave him the magazine capacity to give covering fire during an ambush and that he was skilful enough with it that he could fire short bursts at close range to stop an attacker. It should be noted that he was a large, muscular man in excellent physical shape and an expert practitioner of *sistema*, the Russian military martial art. His hands were large enough easily to encompass the APS's fat grip. He also carried a Czech CZ 75 pistol.

A NATO intelligence officer later told the author another APS/APB story. During the latter stages of the Cold War, *spetsnaz* operators frequently drove near to NATO facilities posing as hauliers from Soviet

satellite states. On a couple of occasions when the lorries had been searched, hidden APB machine pistols had been found.

Like the Makarov PM, the APS remained in service after the demise of the Soviet Union. Valagin states that the APS was issued to combat vehicle crews as they were forbidden by regulations to have a carbine or submachine gun. He also states that Russian pilots in Chechnya would take along an APS in case they were shot down (Valagin 2013).

THE PSM, PSS AND SPP-1 IN SERVICE

Although there is much speculation about the use of the PSM pistol, from assassination weapon to high-ranking officials' and general-officers' pistol, little hard data is available. Tests in which the author was involved with one of the first PSMs available to Western ordnance intelligence personnel did determine that its bullet allowed excellent penetration of ballistic body armour. Maxim Popenker, a Russian weapons expert, states that the PSM was used in suicide attempts by some high-ranking officers and in most cases resulted not in a quick, but a lingering death (Popenker 2018).

A *spetsnaz* use of the PSS occurred during Operation *Storm-333*, the Soviet attack on the Tajbeg Palace in Kabul on 27 December 1979, when the pistol was used to silently eliminate one of General Secretary Hafizullah Amin's guards. The PSS has continued in use with Russian special forces, reportedly being used by FSB Vympel in March 2000 to eliminate Salman Betyrovich Raduyev's bodyguards before the Chechen was captured (Kotz 2017).

The military version of the PSM with its compact issue holster, which is often shown worn in the cross-draw position.

SOVIET HANDGUN HOLSTERS

Soviet-era holsters for both the Nagant M1895 and the Tokarev TT-30/-33 are similar in that they have a large flap to protect the weapon from inclement weather. Typically, the holsters are of brown leather, though later some were made of *Kirza*, a faux-leather product. Some holsters were a combination of leather and *Kirza*. Holsters for the M1895 revolver typically had a pouch for spare ammunition sewn to the front of the holster under the flap.

Once the TT-33 entered service, a 'universal holster' was produced that could be used for both the M1895 and the TT-33. This holster's pouch would take revolver ammunition or a spare loaded TT-33 magazine. TT-33 holsters were also produced with a magazine pouch sewn vertically to the holster under the flap. The front of TT-33 holsters will normally have two loops into which a cleaning rod is slipped.

Makarov PM holsters were typically of brown leather with an external magazine pouch and cleaning-rod loops and had a flap to cover the pistol itself. Naval Infantry holsters were black and typically had hangers to suspend the holster. Also in use were white parade holsters made of vinyl and lacking a magazine pouch, presumably based on the assumption that a pitched gun battle was unlikely on ceremonial duty. For use in tropical environments, a Cordura holster that had the magazine pouch on the front rather than the side of the holster was available. For use by operatives requiring concealment, shoulder holsters, cross-draw and other specialized holsters were available. There was also a holster produced of polymer that was designed to cock the PM during the draw when the pistol was carried with an empty chamber.

PSM holsters are normally of leather, with dark brown or tan most often encountered. Befitting the status of the PSM's typical users, the holsters are of soft leather with a flap and magazine pouch on the side. According to Monetchikov (2015: 299), the most commonly encountered PSM dark-brown holster is designed for cross-draw wear; there is also a shoulder holster available.

A World War II TT-33 pistol with roughly chequered grips and a *Kirza* holster.

Right-side view of a Nagant M1895 revolver with two rounds of 7.62×38mm ammunition showing how the bullet is seated in the cartridge case. The holster is one of the later ones that could be used for the M1895 revolver or the TT-33 pistol; hence, the pouch which will take a spare TT-33 magazine or spare loose revolver rounds.

A PM pistol with holster. (Courtesy of Rock Island Auction Service)

A PM pistol along with the drop holster used by Soviet Navy personnel.

Pictured *c.*1989, a Soviet combat swimmer in the Black Sea fires his SPP-1 underwater pistol, which uses darts instead of bullets. (imageBROKER/Alamy Stock Photo)

The SPP-1 has reportedly been used operationally, but details are scant. One interesting point about its use relates to its darts. Although the pistol may be fired out of the water, the long, slender shape of the dart makes it most effective when encountering water resistance. When fired in the air, the dart becomes destabilized quickly and tumbles, normally striking the target in a flat rather than a penetrative manner. As a result, the dart loses accuracy quickly. This loss of stability is a result of the design of the 203-grain (13.15g) SPS cartridge, which relies on a cavitation bubble that forms along the interface between the length of the dart and the water as it passes through (Anon 2001).

Among the more interesting missions for which the SPP-1 was deployed occurred during the 2–3 December 1989 Malta Summit meeting between Soviet Premier Mikhail Sergeyevich Gorbachev and US President George H.W. Bush off the coast of the Mediterranean island. Reportedly, 16 SPP-1 armed Soviet combat divers were deployed to form an underwater security perimeter and were ordered to fire on any underwater infiltrator coming within 200m of US or Soviet ships.

IMPACT
A global legacy

The influence of Soviet handguns was magnified because of their ubiquity among the armed forces and police of countries within the Soviet sphere of influence. In some cases, Soviet handguns were exported to other countries. In other cases, satellite countries manufactured their own versions. Finally, some satellite countries, normally members of the Warsaw Pact, used pistols of their own design but adopted the 7.62×25mm Tokarev or 9×18mm Makarov cartridge for uniformity with the Soviet Army.

A Chinese Type 54 pistol captured in Vietnam along with its capture papers.

NAGANT REVOLVERS BEYOND THE SOVIET UNION

Though already a dated design by 1945, the Nagant M1895 revolver still saw use by East Germany and Poland among the Soviet Union's Warsaw Pact allies. In fact, in the 1930s, Poland had actually produced a copy of

The only country in the Soviet sphere that produced its own version of the M1895 was Poland. Various liberation movements also used M1895s, as did Spanish Republicans during the Spanish Civil War. The M1895 has become reasonably popular among US shooters as many surplus examples (as well as surplus ammunition) have been imported. (Courtesy of Rock Island Auction Service)

the M1895 designated the wz. 30 at the FB Radom Arms factory for Polish National Police officers. Layman (2018: 93) offers the explanation that as many Poles had served in the Red Army, they were familiar with the M1895. McCollum offers additional information on the wz. 30, stating that the Soviets sold the plans for the M1895 to the Poles in 1928, with manufacture of the revolver running until 1937 and assembly from parts on hand until 1939. Approximately 21,000 Polish Nagants were produced. The wz. 30 is noteworthy for its quality (McCollum 2016).

THE TOKAREV ABROAD AFTER 1945

The Tokarev TT-33 pistol has had much wider influence since 1945. China, North Korea and North Vietnam used substantial numbers of TT-33s during their wars to establish themselves as independent Communist states. Eventually, 60 or more countries would make use of the TT-33, many of them African countries that were recipients of Soviet military assistance (i.e. encouragement of insurgencies). In most countries using TT-33s, the pistols were received as military aid from the Soviet Union or China; however, eight countries mass-produced TT-33 copies or pistols based on the TT-33. One, Pakistan, produced copies built by individual craftsmen, usually designated 'Khyber Pass' Tokarevs (see page 69).

The first country to begin production of its own TT-33 pistol was Poland, using Soviet drawings and machinery. Designated the wz. 1933, this pistol was produced by FB Radom in limited numbers in 1946 and 1947, with full production commencing in 1948 (White 2020: 66). Other than their markings, wz. 1933s were virtually exact copies of the TT-33. Produced until 1955, the wz. 1933 remained the Polish issue military pistol until the adoption of the P-64 (see below) in 1967, though the wz. 1933 remained in limited use until the 1990s. According to Layman (2018: 96), there was enough affection for the wz. 1933 that troops gave it a nickname 'TETETKI', an abbreviation of the Polish words *Tulskaja Tokariewka*, harking back to the original 'TT' designation. White (2020: 67) notes that the wz. 1933 was manufactured using Soviet wartime processes such as alternating thin and thick milling cuts for slide serrations, while other copies of the TT-33 did not. About 225,000 wz. 1933s were produced. It should be noted that FB Radom also produced a .22-calibre version of the wz. 1933 that was used as a training pistol. Cutaway versions of the wz. 1933 were also manufactured as training aids.

The next Warsaw Pact country to adopt the TT-33 was Hungary, as the Pisztoly 48 Minta, often referred to as the M48 or 48M. As its designation indicates, it was adopted in 1948. A licensed copy of the TT-33, the 48M was produced from 1948 until 1958 by the well-known Hungarian arms manufacturer FÉG (Fegyver -és Gépgyártó Részvénytársaság). The 48M remained the primary Hungarian military pistol until replaced by the PA-63 pistol (see below) in 1963. The most visible identifying feature of the 48M is the appearance of its grips, which bear either the Rákosi crest, named for Mátyás Rákosi, the leader of the Hungarian Communist Party from 1945 to 1956, or the Kádár crest, for

János József Kádár, Rákosi's successor. The Rákosi crest was used on earlier 48M pistols and the Kádár crest during 1956–58 (White 2020: 86–87). As a point of interest, the author has seen 48M pistols which have one grip panel with a Rákosi crest and one with a Kádár crest, indicating that they have required a replacement panel at some point. White estimates that 100,000 48M pistols were manufactured (White 2020: 88).

Another Hungarian Tokarev-influenced design should also be mentioned. The Tokagypt 58 was based on the 48M and produced by FÉG, but it has distinct differences from the TT-33 design. In 1957, FÉG contracted with Egypt to produce a TT-33-based pistol chambered for the 9×19mm Parabellum cartridge. The resulting design by Ambros Balosh of

ABOVE & LEFT
One of the Warsaw Pact copies of the TT-33 was the Hungarian FÉG 48M pistol. The 48M resembles the TT-33 closely except for the grips, which bear the crest of either Mátyás Rákosi, leader of the Hungarian Communist Party from 1945 to 1956, or János József Kádár, who succeeded Rákosi. The grips on the pistols shown are from the Rákosi era.

FÉG was not only chambered for a different cartridge but also had an external thumb safety, a comfortable wraparound grip angled for better instinctive pointing and a magazine with a finger rest. As appealing as the Tokagypt 58's design may have been, Egypt terminated the contract, which was initially for 30,000 pistols, after between 13,000 and 14,000 had been delivered. Layman (2018: 82) gives the figure delivered as 13,250. Remaining pistols not delivered were sold commercially by FÉG (White 2020: 92).

After the Soviet Union, the most prolific producer and user of Tokarev pistols was the People's Republic of China. The first Chinese TT-33 copy, the Type 51, was adopted in 1951 and according to White (2020: 98–99), was probably initially made of a combination of Soviet and Chinese parts while the Chinese production facility was coming on line. One point to note about the Type 51 pistols is that their bores are not chrome-lined, a negative given that 7.62×25mm Tokarev ammunition was normally corrosive. Between 1951 and 1954, over 235,000 Type 51 pistols were produced. US and allied troops encountered the Type 51 in use with Communist troops during the Korean War.

The Type 54 pistol superseded the Type 51 in 1954. Type 54 pistols were produced until 1985, with a gap of 1960–61, according to White (2020: 106), because of disruptions caused by the 'Great Leap Forward' collectivization plan of 1958–62. It is estimated that around 420,000 Type 54s were produced. Up to 50,000 or more Type 54s were supplied to North Vietnam, and quite a few of these found their way to the United States having been captured by US military personnel (White 2020: 110).

Less frequently encountered is the M20 Chinese Tokarev, which is basically a Type 54 that has been 'sterilized' for supply to insurgent groups

The Tokagypt 58 pistol was based on the Hungarian 48M and produced by FÉG but with alterations to meet a requirement from Egypt. Alterations to the basic TT-33 design included chambering for the 9×19mm Parabellum cartridge instead of the 7.62×25mm Tokarev cartridge. Other alterations included an external thumb safety, a wraparound grip angled for better instinctive pointing and a magazine incorporating a finger rest. The initial contract was for 30,000 pistols, but Egypt cancelled the contract when fewer than half had been delivered. The remaining pistols were sold commercially.

A Chinese Type 54 copy of the TT-33 pistol with its typical suede-lined holster. Tokarev variants were popular trophies among US troops in Vietnam, though these were mostly Chinese-production pistols. The first Makarov the author owned was a Chinese-example, brand new with its holster, that had been captured at a supply dump during the US 1971 incursion into Laos. At least some US Special Forces troops who operated on reconnaissance missions in Viet Cong/North Vietnamese Army-controlled areas carried captured Tokarev variants along with AK-47 assault rifles. Chromed captured Tokarev pistols were also presented to US Special Forces soldiers upon finishing their tours or other occasions.

or otherwise to hide its Chinese origins. Some of these pistols also found their way to the United States with veterans of the Vietnam War, indicating that they had been supplied to the Viet Cong and the PAVN. Layman (2018: 53) mentions encountering M20 pistols in Honduras that were likely intended for a Salvadoran leftist group. White (2020: 117) estimates production of the M20 as below 50,000.

A Romanian copy of the TT-33, the TTC (*Tula Tokarev Cugir*), was first produced in prototype form in 1951 at the Cugir Arms Plant. The pistol was adopted in 1952 as the standard Romanian military pistol, with manufacture continuing until 1957. According to White (2020: 133), production ceased because Soviet technical personnel left Romania in 1958 and took the TTC tooling with them. Though production ceased in 1957, the TTC remained in use with Romanian military and police personnel until the late 1990s. White (2020: 138) gives 155,648 as the total production for the TTC, with foreign sales of almost 30,000 to Syria and Iraq, plus up to a few thousand more to other countries.

Just as Yugoslavia veered away from the Soviet Bloc in its interpretation of Communism, it also took its own path in producing a version of the Tokarev pistol. Yugoslavia had purchased 31,050 Nagant M1895 revolvers and Tokarev TT-33 pistols from the Soviet Union for use after World War II. Although Yugoslavia had planned production of its own version of the Tokarev pistol during the years immediately after the war,

it was not until 1952 that plans to produce a Yugoslav TT-33 came to fruition. Initially, it was intended to produce a simplified TT-33 design to be designated the M54; however, at that time the Zastava Arms Factory in Kragujevac was operating at capacity to produce rifles and submachine guns (White 2020: 144).

As its designation indicates, development of what would become the M57 began in 1957. Though based on the TT-33, the M57 has distinct differences. The most noticeable is that it takes a magazine with a capacity of nine rounds of 7.62×25mm Tokarev ammunition, thus requiring a longer grip. The M57 also incorporates a magazine safety, which prevents the pistol from firing when the magazine is removed. The incorporation of a captive recoil spring makes disassembly and reassembly easier than with a standard TT-33. There are a few other internal changes, including a firing-pin group consisting of many parts. The M57's bore is not chromed, making it susceptible to corrosion with standard military

The Yugoslavian M57 was based on the TT-33 but with various changes, most notably the longer grip to take a nine-round magazine rather than the TT-33's standard eight-round magazine.

The North Korean Type 66/68 copy of the TT-33 exhibits some marked differences, including the magazine catch at the base of the grip and the lack of a barrel bushing. (Courtesy of Adrian Van Dyk)

7.62×25mm Tokarev ammunition of the era. As an aid to accuracy, the M57's front sight is dovetailed into place to allow adjustments for windage; and to cut glare to allow better sight acquisition the top of the slide has striations.

Production of the M57 began in 1963 and continued until 1982. Military M57 pistols have a crest atop the slide. A total of between 260,000 and 270,000 M57 Yugoslavian military pistols appear to have been produced, but White notes that there was a separate run of pistols for Croatia (White 2020: 157).

As with many things related to North Korea, information about the copy of the TT-33 produced there is limited. Usually designated the Type 66/68, the pistol has many unique features. For example, its shorter barrel (107mm versus 116mm) and slide plus beavertail extension to the frame give it a more streamlined appearance. Other differences include elimination of the barrel bushing and the use of a magazine catch at the base of the grip rather than a button release. Layman (2018: 88–89) states that manufacture of the Type 66 began in 1966 at the Chongyul Arms Plant. Layman, a former US Army intelligence expert and Korean linguist, also notes that he saw captured Type 66/68 pistols in Vietnam and examples taken from North Korean commandos infiltrating South Korea on assassination missions. Layman also notes that the quality of the Type 66/68 was good. Examples of the Type 66/68 are rarely encountered in the West. Highly sought by US Tokarev collectors, an example was recently offered to the author for $12,500, a price that is not outrageous given the pistol's rarity.

THE MAKAROV IN THE WIDER WORLD

The Makarov was also widely distributed within the Soviet sphere of influence, but three countries other than the Soviet Union produced their own Makarov pistols. East Germany adopted the PM in 1958 or 1959, prior to which the country had used World War II Walther P 38 and PP pistols as well as Luger pistols. Some Soviet TT-33 pistols also saw use. After adoption of the Pistole M, as the East German PM was known, it replaced the World War II designs. The East German Pistole M, the first licensed production of the PM outside the Soviet Union, was produced by VEB Ernst Thalmann-Werk in Suhl, long a centre of German gunmaking. Production of the PM took place during 1957–65, though 1957 was devoted to prototypes. Production ceased in 1965, but the PM remained the principal military and police pistol in East Germany until reunification of the country with West Germany in 1990 (Brown & White 2016: 54–57).

Precise production figures for the Pistole M are not available, but normally, each letter prefix code (i.e. 'B' and 'ES') was used for a production run of 10,000 pistols and over 50 prefix codes are known. Brown and White (2016: 56–57) also state that 170,000 Pistole Ms were still in East Germany's inventory as late as 1989. In the absence of exact figures it will have to suffice to say that hundreds of thousands of Pistole Ms were produced. According to Layman (2018: 75), 8,000 Pistole Ms were sold to Turkey in the late 1970s.

The phrase 'German craftsmanship' has often been applied to firearms, and this is the case with the Pistole M, which is considered by many to be

Many collectors and firearms students consider the East German Pistole M copy of the PM to be the premier example of the Makarov pistol. This example is shown with a *Strichmuster* (often known as 'rain drop')-pattern holster.

'KHYBER PASS' PISTOLS

'Khyber Pass' Tokarevs and Makarovs are named after the Khyber Pakhtunkhwa (North West Frontier) area of Pakistan where guns have been made in local workshops for generations. Individually made copies of the Tokarev or Makarov vary dramatically in quality. Some, in fact, are such good copies that they can fool one if not examined carefully. Often, a sign of a Khyber Pass copy is incorrect markings on the pistol; or the finish, bluing or chequering may not appear of high quality. However, in the case of the Tokarev some World War II Soviet pistols show a lot of wear, thus belying that they are true Soviet TT-33s. Because of the high pressure generated by the 7.62×25mm cartridge, the quality of steel and heat treatment for a 'Khyber' TT-33 copy can make it quite dangerous to fire.

Just as the Germans and Finns had made use of captured Soviet handguns in World War II, so too did the mujahideen during the Soviet involvement in Afghanistan (1979–89). As well as PM, TT-33 and APS pistols captured from Soviet troops, the mujahideen fielded 'Khyber Pass' Makarovs and Tokarevs acquired in Pakistan. The TT-33 was standard issue with the Afghan Army at the time so some were sold, stolen or brought over the border by defectors (jleiper 2008).

Especially after the Soviet invasion of Afghanistan in 1979, captured Makarov PM pistols turned up in Darra, Pakistan and other North West Frontier gun markets. Because of the high price of a true Soviet-made Tokarev, locally made Makarov copies soon proliferated. Many of the copies appear to have been made using Soviet PMs as models, as they incorporate markings such as the Izhevsk triangle-in-circle marking. The long involvement of US troops in Afghanistan has resulted in a few examples of 'Khyber Pass' PMs being available to collectors; ironically, a copy of the PM may bring a higher price from a collector than a genuine Russian PM.

A 'Khyber Pass' TT-33 copy. Though manufactured in small shops, some of the 'Khyber Pass' pistols are hard to differentiate from production pistols. (Courtesy of Cameron S. White)

A 'Khyber Pass' PM; note the attempt to duplicate Soviet markings. (Courtesy of Cameron S. White)

the highest-quality Makarov pistol produced. Fit and finish are excellent. Another visible difference from the Soviet-produced PM is evident in the Pistole M's black, chequered grips. In the translation of the 1975 manual for the Pistole M (Bloss 2004), in the section titled 'Battle Properties', it is stated that the practical rate of fire for the Pistole M is 30rd/min and optimal distance of fire is up to 50m. Those 'properties' delineate the effective use of the Pistole M fairly well, though to fire 30 rounds in a minute, two more fully loaded magazines than the two eight-round ones issued with the pistol would have to be available.

Another member of the Warsaw Pact, Bulgaria, produced copies of the PM. For the first decades after World War II, Bulgaria used Soviet TT-33 pistols and Romanian TTC pistols assembled in Bulgaria for its military and police (Layman 2018: 42). However, in the period 1972–74 manufacture of a copy of the PM began at Arsenal JSCo in Kazanlak. The first years were dedicated to setting up the production line and assembling prototypes under the supervision of Soviet engineers, with actual delivery of finished pistols not commencing until 1975. Prior to the start of production and after, Bulgaria also received PM pistols from the Soviet Union. Bulgarian PMs were designated *Pistolet Makarova*, thus it was abbreviated to 'PM', as was the Soviet version (Brown, White & Lowe 2018: 73–75).

The Bulgarian Makarov is a close copy of the Soviet PM; note the '10'-in-a-circle marking for Factory No. 10.

A Chinese Type 59 pistol with the grips of the People's Liberation Army indicating military issue. Note also the '59SHI' marking, indicating official acquisition.

According to Brown, White and Lowe (2018: 75), the size of the Bulgarian armed forces and police services would not seem to justify producing a Bulgarian version of the Makarov, especially since Bulgaria had already been importing Soviet PMs. They offer the explanation that Bulgaria, which employed 110,000 people in its arms industry, was producing Makarov pistols for export through KINTEX, the state-owned arms exporting company. This appealed to the Soviets as Bulgarian arms could be supplied to groups being supported by the Soviet Union in proxy-wars, thus allowing Soviet denial of supplying arms. As a result of Bulgaria's export of Makarovs, AK-47s and other arms, conflicts in Africa, the Balkans, the Middle East and elsewhere were often fought with Bulgarian-made weapons.

Bulgarian Makarovs incorporate all of the improvements made to the Soviet PM prior to 1974. Other than minor differences and markings, the pistol is identical to the Soviet PM. Some Bulgarian Makarovs were provided to the East German Stasi state security service, ostensibly to supplement stocks of East German-made pistols; however, it is possible that East Germany wanted 'deniable' Makarovs for clandestine usage. In any case, the Stasi reportedly found the quality of the Bulgarian pistols to be far below that of the East German-made pistols. After declaring independence from Yugoslavia in June 1991, Slovenia also purchased Bulgarian-made Makarovs. Perhaps the most famous Bulgarian Makarov, though, is the one presented to Nelson Mandela by Emperor Haile Selassie of Ethiopia. Reportedly, Mandela buried it prior to his arrest in 1962 (Brown, White & Lowe 2018: 95–98). According to Layman (2018: 43), the Makarov remained the primary Bulgarian military handgun until that country joined NATO in 2004 and adopted a 9×19mm-calibre pistol, the Arcus 98DA.

The only Warsaw Pact Soviet ally to produce a 7.62×25mm pistol other than the Tokarev TT-33 was Czechoslovakia with the CZ 52 pistol.

OTHER WARSAW PACT PISTOLS

Not all members of the Warsaw Pact chose to adopt the Tokarev or Makarov, instead producing their own pistols, though chambered for the 7.62×25mm Tokarev or 9×18mm Makarov cartridges. The only country that went its own way with a 7.62×25mm pistol was Czechoslovakia. The Czechs had initially used the domestically produced CZ 50 pistol in .32 ACP for its troops assigned to the Warsaw Pact, but under pressure to conform to the standard 7.62×25mm Tokarev cartridge, rather than adopt the TT-33, the Czechs altered the 9×19mm CZ 491 pistol to chamber the 7.62×25mm cartridge. This pistol was designated the CZ 52.

A good-sized single-action pistol, the CZ 52 employed a short-recoil, roller-locking system that allowed it to handle 7.62×25mm submachine-gun ammunition. It employs a manual de-cocker/safety and a spring-loaded firing-pin block. About 200,000 CZ 52s were produced between 1952 and 1954 (Layman 2018: 65) and the pistol saw some use by other countries within the Soviet sphere of influence. Layman (2018: 66) notes that North Korean infiltrators into South Korea had been armed with the CZ 52. Perhaps the most famous user of the CZ 52, however, was Ilich Ramírez Sánchez, a Venezuelan terrorist better known as 'Carlos the Jackal', who reportedly used a CZ 52 to shoot and kill French DST (Direction de la Surveillance du Territoire) agents Raymon Dous and Jean Donatini in Paris on 26 June 1975.

Rather than adopt the Makarov, Czechoslovakia adopted the CZ 82 pistol in 9×18mm calibre.

Although the Czech CZ 75 was not adopted by the Czech Army during the Cold War because it was chambered for the 9×19mm Parabellum cartridge rather than the Warsaw Pact standard 9×18mm Makarov cartridge, it was considered by many to be the finest 9×19mm pistol available at the time, as it incorporated the grip style and generous magazine capacity of the Browning High-Power with an action that allowed double-action firing or use of a safety to carry the pistol 'cocked and locked' for a first round fired single action. If the operator had engaged an enemy initially with a double-action shot, he could also flick on the safety while scanning for additional threats and just flick it off to re-engage.

Those Warsaw Pact countries that chose not to manufacture the Makarov pistol or import them from the Soviet Union developed their own pistols in the Warsaw Pact standard 9×18mm calibre. The Czech choice of a 9×18mm service pistol was a good one. The CZ 82 was a modern DA/SA design with ambidextrous safety and slide release, as well as a high-capacity magazine that held 12 rounds. According to Layman (2018: 67), CZ 82 pistols were sold to Kazakhstan, Vietnam, Slovenia, North Korea and Israel.

Hungary produced an array of compact 9×18mm pistols that were strongly influenced by the Walther PP and PPK. The PA-63, a PP-sized 9×18mm DA/SA pistol, was the most widely used of the FÉG designs. The most interesting compact Hungarian 9×18mm pistols, however, were the RK-59 and R-61. These alloy-framed pistols were the size of a Walther PPK but chambered for the 9×18mm Makarov cartridge. The RK-59 did not remain in production for long because its alloy frame cracked after firing 1,000 rounds or fewer of the powerful 9×18mm cartridge. The R-61 is the same pistol with a slight change in the alloy used for the frame to make it more durable. The author considers the R-61 an excellent pocket pistol and often carries one.

Like the RK-59, the FÉG R-61, shown here, was chambered for the 9×18mm Makarov cartridge. The slide is removed to show that other than the alloy frame and the 9×18mm chambering, this pistol is virtually the same as a Walther PPK.

The Poles also chose a design based on the Walther PP and PPK pistols but chambered for the 9×18mm Makarov cartridge. Designated the P-64, this was a serviceable design with the advantage of being the size of a Walther PPK. In addition to use in Poland, it was exported to Vietnam and Lebanon. The P-83 *Wanad*, a more modern design, replaced the P-64, which had caused safety concerns due to its lack of a half cock or transfer bar. Among the P-83's other advantages were an eight-round magazine compared to the P-64's six-round magazine, comfortable rubber grips, a slide stop/hold open and a spur hammer to allow easier cocking for single-action firing. The P-83 remained the standard Polish military pistol until 1993, though some continued in use into the 21st century (Layman 2018: 100).

The P-64 was a compact 9×18mm pistol that resembled the Walther PPK, though it had a bottom magazine release rather than a frame-mounted one. Though well-suited for police use it was considered too small for military usage due to its low magazine capacity (six rounds) and rudimentary sights. There were also safety concerns regarding the pistol's lack of a half-cock notch or a transfer bar.

The P-64 was replaced by the P-83 *Wanad*, which was safer, had larger, more comfortable rubber grips, a slide stop/hold open and a spur hammer to allow easier cocking for single-action firing. The P-83 remained the standard Polish military handgun until at least 1993. Although the P-83 functions reliably, the author has always found it to be awkward in appearance.

The People's Republic of China also manufactured copies of the Makarov pistol. Designated the Type 59, the Chinese pistol is a copy of the Soviet PM, but with different grips and markings. However, the Type 59 military and police version of the Makarov was only manufactured for a limited time at Arsenal 626 in Bei'an. According to Brown, White and Lowe (2018: 13–15), available information indicates that the Type 59 was only manufactured from 1959 to 1962, and possibly only from 1959 to 1960. They theorize that this short production cycle may have been the result of the Sino-Soviet split that resulted in the withdrawal from China of Soviet technical advisors in 1960. China's 'Great Leap Forward' collectivization plan of 1958–62 may also have diminished the country's industrialization capacity. The estimate of total production of Type 59 pistols is between 60,000 and 70,000.

Chinese military- and police-issue pistols have the marking '59SHI' on the left side of the frame, preceded by the serial number and '66' inside a triangle. The '66' is the designation for Arsenal 626. To determine if a pistol was military or police issue, one must examine the grips. Grips for Ministry of Public Security (police) pistols are marked with a shield containing a large star representing the Communist Party of China and four smaller stars representing the four social classes in Maoism. Grips for People's Liberation Army (PLA) pistols are marked with a cogwheel with a star surrounded by stalks of wheat. On the star are Chinese characters. There seems to have been some crossover in issuance of the Type 59 pistols, however, with the PLA receiving pistols with Ministry of Public Security grips (Brown, White & Lowe 2018: 18). Both versions of the Type 59 are rarely seen in the West. Most that are were captured from high-ranking North Vietnamese officials during the Vietnam War. The author used to own a Type 59 that was brand new and had been captured at a Viet Cong/PAVN arms dump in Laos by a member of the US Special Forces.

A Type 59 pistol with Ministry of Public Security (police) grips in a suede-lined holster.

COMMERCIAL MAKAROV PISTOLS SINCE 1991

The Russian IZH-71H is a version of the PM designed for private security personnel and sold under the Baikal label. It is chambered for the 9×17mm (.380 ACP) cartridge and incorporates a laser sight. A model designated the MP-48 *Skyph* is an updated, polymer-framed Makarov chambered for the 9×18mm cartridge. For better concealment, a *Skyph* Mini is available with an overall length of 142mm and a barrel length of 73.5mm. There are other variants, including one that is compensated, the OTs-35; a civilian-defence version firing gas or 9mm rubber bullets, the Izh-79-9T *Makarich*; and a 10×22mm version for private security personnel, the MP-471 (Monetchikov 2015: 271). Popenker notes (2021: 69) that a variety of Russian handguns, including the Nagant M1895, Tokarev TT-33, Makarov PM and Stechkin, were converted to fire the 9PA rubber bullet. According to Brown and White (2016: 29), the current manufacturer of the Makarov pistol is the Kalashnikov Concern, which produces the PM, PMM, MP-71 and MP-471.

There was an attempt between 1994 and 1996 to market a version of the Makarov in the most lucrative firearms market in the world – the United States. The Baikal IJ-70 version of the Makarov incorporates late features of the standard frame designed for a single-stack eight-round magazine. There are other features not present on military-production PMs, however. The most noteworthy difference is the use of an adjustable rear sight, which helped the pistol meet US import requirements that it be for 'sporting' use. Although black PM-style grips with a 'Baikal' logo were used, on some examples a PMM-style grip was used. Also imported were IJ-70 pistols that used the wider grip for a double-column ten- or 12-round magazine and the larger black PMM grips. The difference in magazine capacity was because some US states limit magazine capacity to ten rounds. In addition to 9×18mm chambering, some IJ-70 pistols were chambered for the 9×17mm (.380 ACP) cartridge. As of 1996, Baikal Makarovs were no longer approved for import into the United States.

Beginning in the early 1990s, Makarov pistols from East Germany and Bulgaria were imported into the United States. Russian Makarovs were not approved for import, but some 'crept' into the United States mixed in with Bulgarian and East German pistols. These imported Makarovs sold well in the United States for various reasons. First, they were exotic icons of the Cold War, which had recently thawed. On a more practical level, they were reliable, inexpensive self-defence pistols. As more states passed laws allowing concealed carry of handguns, the popularity of Makarov pistols grew as they offered an inexpensive, reliable, concealable pistol firing a bullet with reasonable stopping power. The passage of federal law HR218, which authorized retired police officers to be armed, led to some additional interest in Makarov imports. Two retired police friends of the author chose to carry East German Makarovs.

Some Russian Makarovs, with adjustable sights to make them applicable for 'sporting use', were imported into the United States commercially as the Baikal IJ-70. 'Commercial' Chinese Norinco Makarovs were also imported, as well as the non-Makarov 9×18mm pistols used by other former member states of the Warsaw Pact. The inexpensive Hungarian PA-63 proved a popular self-defence choice for low-income Americans living in rough neighbourhoods. The sale of so many self-defence pistols in 9×18mm calibre also gave impetus for ammunition manufacturers to offer hollow-point ammunition to make the pistols more effective.

Large numbers of Tokarev pistols were also imported into the United States, though to be allowed into the country they had to have thumb safeties added. For those buying them to shoot this was a much-needed enhancement of safe handling ability. Along with imported Tokarevs came imported surplus 7.62×25mm ammunition. Normally, this ammunition was corrosive, so if fired in pistols without chrome-lined bores (or even in pistols with chrome-lined bores), rigorous cleaning was needed after shooting.

As a final note on the influence of Russian handguns, it should be mentioned that Nagant M1895 revolvers, Tokarev pistols and Makarov pistols have become highly collected in the United States. However, most collectors want examples that have not been marked with importer marks or have had safeties added. As a result, the market for Nagants, Tokarevs and Makarovs that came back with US troops or were otherwise acquired overseas and brought back by individuals has boomed.

Some Russian versions of the PM were produced for export to the United States in the 1990s, such as this example from KBI. Designated the Baikal IJ70, examples were built on the eight-round PM frame, while others were built on the 10-/12-round PMM frame. For import into the United States, IJ70 pistols normally had adjustable sights added to make them a 'sporting' pistol. Examples were produced in 9×18mm Makarov and 9×17mm (.380 ACP) calibres. The 9×17mm (.380 ACP) pistols had lighter recoil and the cartridge was more readily available than the 9×18mm Makarov cartridge. The 9×17mm (.380 ACP) version would also be importable into countries that limited civilians to pistols of .380 calibre or less. (Courtesy of Rock Island Auction Service)

CONCLUSION

The author shooting one of the Russian *spetsnaz* drills that entailed engaging with the PM pistol from various positions including upside down while rolling from side to side.

The latest generation of Russian self-loading pistols has now replaced the PM within many front-line military and police units, though the PM still sees substantial usage. Over the last three decades, Russian firearms designers have produced an array of new designs incorporating the latest combat features such as lasers, optical sights, powerful 9mm cartridges and polymer frames.

As a replacement for the Makarov PM an array of pistols have been tested, with some adopted for specialized use or for issue in certain agencies. One of the most widely distributed is the GSh-18 in 9×19mm calibre. Developed in the 1990s at the KBP Instrument Design Bureau in Tula, the GSh-18 is a rotating-barrel, short-recoil, locked-breech pistol that takes an 18-round magazine. It is striker-fired and has a polymer

The OTs-38 suppressed/silenced revolver was designed by Igor Yakovlevich Stechkin, best known for designing the APS machine pistol. Although traditionally revolvers have not been effectively suppressed, the use of the captive-piston system, which creates a gas seal to prevent flash or sound, allows the OTs-38 to be suppressed. (Stanislav Krasilnikov\TASS via Getty Images)

Two examples of Russia's new heavy-duty, more powerful special-operations pistol, the Udav, with the upper example having the suppressor mounted. As with pistols from other countries designed for special-operations use, the Udav's frame is designed for laser/illuminator attachment. Controls are also ambidextrous. Prior to military adoption, the Udav underwent extensive reliability and durability testing. (Mikhail Japaridze\TASS via Getty Images)

frame. As is often the case with Russian handgun designs, the use of fewer parts was a goal with the GSh-18, which has only 18 parts. In addition to the standard 9×19mm Parabellum cartridge, the GSh-18 is designed to fire the 7N21 and 7N31 armour-piercing rounds. The GSh-18 is widely distributed among Russian military and internal-security forces (Jones & Ness 2007: 57). The 18-round magazine capacity has also made the GSh-18 of interest to some *spetsnaz* units.

Also used by Russian armed forces and special police units is the MP-443 *Grach*, which was adopted in 2003. It was developed as part of Russian military trials that began a decade earlier. A short-recoil, double-action semi-automatic that takes an 18-round magazine, the MP-443 uses a version of the Colt-Browning action. Though the MP-443 is a double-action pistol, it also has an ambidextrous thumb safety. As with the GSh-18, the MP-443 is chambered for the Russian 7N21 armour-piercing round. Initially, the MP-443 was supplied to *spetsnaz* units, but by 2015, many Russian conventional military units had received the pistol as part of the process to replace the PM with all front-line units. Note that the MP-443 is sometimes known as 'PYa' for *Pistolet Yarygina* ('Yarygin's Pistol') after its designer Vladimir Alexandrovich Yarygin (Jones & Ness 2007: 59).

Other modern pistols have seen limited use. For example, the OTs-27 *Berdysh* has been used by the Ministry of Internal Affairs and other law-enforcement agencies. The SR-1 *Vektor* – which chambers the powerful 9×21mm *Gyurza* cartridge, able to punch through 30 layers of Kevlar backed by a titanium or steel plate – has been used by *spetsnaz* units. The SR1MP version is capable of mounting illuminators, suppressors and other accessories. In addition to its use by FSB special operators, the pistol is reportedly the choice of President Vladimir Vladimirovich Putin's bodyguards (Rusakova 2016).

Another pistol chambered for the 9×21mm *Gyurza* round, the Udav, has also received some interest and has been touted as the successor to the Makarov. The penetration of the standard round and its proprietary nature have resulted in some testing of the Udav chambered in the world-standard 9×19mm calibre (Popenker 2019).

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In the book, while the focus is on Soviet and Russian pistols, other handguns such as the Nagant M1895 revolver are also covered, to give a fuller picture of handguns in Soviet and Russian service before, during and after the Soviet period (1917–91). Unless otherwise credited, photographs are from the author's collection.

Front cover, above: The Makarov PB has an integral suppressor, which can be removed. (© Royal Armouries PR.2490)

Front cover, below: During World War II, a Red Army officer leads his troops in the attack with his Tokarev TT-33 held high. (CPE Media Pte Ltd/Alamy Stock Photo)

Title-page photograph: Soldiers of the Chinese People's Liberation Army fire the Type 59, the Chinese-produced version of the Makarov pistol, in December 1983. (Owen Franken/Corbis via Getty Images)